

## APPLICATIONS FOR ADMISSION AND FOR TRANSFER

The Constitution provides that the Board of Direction shall elect or reject all applicants for *Admission* or for *Transfer*, and, in order to determine justly the eligibility of each candidate, the Board must depend largely upon the Membership for information.

This list is issued to members in every grade for the purpose of securing all such available information, and every member is urged to scan carefully each monthly list of candidates and to furnish the Board with data in regard to any applicant which may aid in determining his eligibility. It is the *Duty* of all *Members* to the *Profession* to assist the Board in this manner.

It is especially urged, in communications concerning applicants, that errors in the record be pointed out and a *Definite Recommendation as to the Proper Grading in Each Case* be given, inasmuch as the grading must be based upon the opinions of those who know the applicant personally, as well as upon the nature and extent of his professional experience. If facts exist derogatory to the personal character or to the professional reputation of an applicant, they should be promptly communicated to the Board. *Communications Relating to Applicants are considered by the Board as Strictly Confidential.*

The Board of Direction will not consider the applications herein contained from residents of North America until the expiration of thirty (30) days, and from Non-Residents of North America until the expiration of ninety (90) days from August 1, 1925.

### MINIMUM REQUIREMENTS FOR ADMISSION

Grade	General Requirement	Age	Length of Active Practice	Responsible charge of work
Member	Qualified to design as well as to direct work	30 years	10 years*	5 years
Associate Member	Qualified to direct work	25 years	6 years*	1 year
Junior	Qualified for sub-professional work	18 years†	2 years*	
Affiliate	Qualified by scientific acquirements or practical experience to co-operate with engineers			
Fellow	Contributor to the permanent funds of the Society			

\* Graduation from a school of engineering of recognized reputation is equivalent to 2 years' active practice.

† Membership ceases at age of 32 unless transferred to higher grade.

# LIST OF APPLICANTS.

Names and Addresses of Applicants for Admission and for Transfer on this Preliminary List,  
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The fact that applicants give the names of certain members as references does not necessarily mean that such members endorse:

The numbers at the left of each name indicate the serial number of the applicant for the current year, and the district in which he resides.

The abbreviations in *Italics* represent, respectively, *TT*, Total Time; *SP*, Sub-Professional Work; *P*, Professional Work; *RC*, Responsible Charge; *D*, Design. The figures showing the amount of time spent in Responsible Charge and on Design are the estimate of the Applicant. The allowance of two years for graduation and of one-third of a year for each academic year successfully completed in an engineering college without graduation are included in Total Time and Sub-Professional Work.

### FOR ADMISSION

455 (12) ALLEN, RALPH WALDO, Bowser, B. C., Canada. (Age 43. Born Miles, Iowa.) Jan. 1905 to May 1913 with Chicago, Milwaukee & St. Paul Ry. as follows: Jan. 1905 to Jan. 1907 Res. Engr. on construction at Sumner, Wash.; Jan. 1907 to July 1908 Asst. Engr. on bridge construction and maintenance, Cascade Mts.; July 1908 to May 1912 Engr. in Right of Way Dept., Seattle, Wash.; May 1912 to May 1913 Res. Engr. on construction, Lewistown Great Falls Line, Lewistown, Mont. *TT* 8: *P* 8: *RC* 8. May 1913 to Oct. 1914 with Puget Sound & Willapa Harbor Ry. (now C., M. & St. P. Ry.), until Dec. 1913 as Right-of-Way Agt. at Raymond, Wash.; then Res. Engr. on construction at Dryad, Wash. *TT* 1.5: *P* 1.5: *RC* 1.5. Oct. 1914 to Oct. 1915 Asst. Engr. on Interstate Commerce Comm. valuation work, C., M. & St. P. Ry., Seattle. *TT* 1: *P* 1: *RC* 1. Oct. 1915 to 1921 Engr. on land appraisal, Interstate Commerce Comm. Valuation of Railroads, in charge of parties in Washington, Idaho, Montana and some larger towns in Iowa and Wisconsin for C., M. & St. P. Ry. *TT* 5.2: *P* 5.2: *RC* 5.2. Feb. to Dec. 1923 with Montana R. R., until June 1923 as Locating Engr. on 150 miles of line between Miles City, Mont., and Sheridan, Wyo.; then Div. Engr. in charge of construction in Montana (140 miles). *TT* 0.9: *P* 0.9: *RC* 0.9. July 1924 to date one of three Receivers for Montana R. R. -Since Dec. 1924 also Chf. Engr., Thompson & Clark Timber Co., Ltd., Vancouver and Bowser, B. C., 20,000 acres of virgin timber; built 22 miles of logging railroad, laying out yards, docks on deep water, water supplies and buildings. *TT* 0.7: *P* 0.7: *RC* 0.7. *TT* 18.3: *P* 18.3: *RC* 18.3. Refers to E. B. Crane, G. K. Farner, D. C. Fenstermaker, O. H. Frick, F. D. Hayden, A. G. Holt, C. T. Jackson, C. F. Loweth, R. J. Middleton, J. F. Pinson, F. M. Sloane, R. E. Smith.

456 (7) ANDERSON, JOHN HOWARD, 1112 Scribner Ave., Grand Rapids, Mich. (Age 23. Born Batavia, Ill.) 1924 B. S. in C. E., Univ. of Mich. June 1924 to date Engr., O. F. Miller Co., Gen. Contrs.; Surveyor, Layout Man for buildings, and design when plans are not complete. *TT* 3: *SP* 2: *P* 1. Refers to J. H. Cissel, A. J. Decker, L. M. Gram, H. W. King, C. T. Johnston, C. O. Wisler.

457 (2) ANDREWS, JOSEPH, P. O. Box 151, West Haven, Conn. (Age 27. Born West Haven, Conn.) 1915 Ky. Mil. Inst. Sept. 1915 to Feb. 1918 student in chemical engineering, Purdue Univ. *TT* 0.7: *SP* 0.7. Feb. to Aug. 1918 Rodman and Draftsman, Atchison, Topeka and Santa Fe R. R., maintenance of way field work and office design, principally flood protection. *TT* 0.5: *SP* 0.5. Aug. to Dec. 1918 Officer Candidate, Field Artillery Officers' Training Camp, Camp Zachary Taylor, commissioned 2d Lieut. of Field Artillery, U. S. Army. *TT* 0.3: *SP* 0.3. Dec. 1918 to Nov. 1919 with A., T. & S. F. Ry. as Draftsman and Designer, Needles, Cal., and later in Office of Valuation Engr. as Computer of reports to Interstate Commerce Comm., Val. Order No. 3, at Los Angeles, Cal. *TT* 1: *SP* 1. Dec. 1919 to Jan. 1920 Instrumentman, Louisville & Nashville R. R. *TT* 0.1: *SP* 0.1. Feb. 1920 to June 1924 in Chf. Engr.'s Office of Design, New York, New Haven & Hartford R. R., principally track layout and industrial yard design; preparation of standard plans, field investigation and report. *TT* 4.4: *SP* 4.4. June 1924 to date Instructor of Surveying and Eng. Drawing, Dept. of Civ. Eng., Sheffield Scientific School, Yale Univ.; Feb. to June

1925 (evenings) Instructor of Descriptive Geometry, Bridgeport (Conn.) Eng. Inst. *TT 1: P 1: RC 1. TT 8: SP 7: P 1: RC 1.* Refers to L. J. Carmalt, W. T. Dorrance, G. M. Keith, A. S. Lynch, J. F. Lynch, J. C. Tracy.

458 (4) ATKINSON, WILLIAM PATTERSON, 238 South Burrows St., State College, Pa. (Age 24. Born Pittsburgh, Pa.) 1925 B. S. in Civ. Eng., Pa. State Coll. 1919 to 1921 Apprentice Elec. Motor Tester, Burke Elec. Co., Erie, Pa. (under co-operative industrial course in High School). 1923 (4 months) Laborer, Constable Bros. Constr. Co., Erie, placing plain and reinforced concrete. *TT 2: SP 2.* Refers to H. N. Benkert, R. O'Donnell, W. P. Rothrock, R. L. Sackett, E. D. Walker.

459 (10) AUGUR, GEORGE TALCOTT, 1637 Oak St., Jacksonville, Fla. (Age 23. Born West Haven, Conn.) 1923 C. E., Rens. Pol. Inst. Oct. 1923 to April 1924 Surveyor on South Atlantic and Indian Ocean Expedition, topographical work and tracing maps. *TT 2.5: SP 2.5.* Dec. 1924 to date Instrumentman and Chf. of Party for Robert M. Angas, topographical work, surveys, laying out subdivision, mapping and tracing. *TT 0.5: SP 0.5. TT 3: SP 3.* Refers to R. M. Angas, E. R. Cary, L. W. Clark, E. Gagel, T. R. Lawson, P. C. Ricketts.

460 (11) BACCA, JOSEPH PAUL, 605 Pine St., Trinidad, Colo. (Age 26. Born Hastings, Colo.) Licensed Engr., State of Colo. 1922 E. M., Colo. School of Mines. June to Sept. 1919 with Rapp & Hendrickson, Archts., Trinidad, Colo. June to Sept. 1920 with Wyoming State Highway Dept., Cheyenne, Wyo., and June to Sept. 1921 with Douglass, Corey & Fisk, Inc., Engrs., at Trinidad and Walsenburg, Colo.; work covered drafting, design, plans, estimates, on building, paving and sewer work; also some level and transit work. Sept. 1920 to June 1921 (spare time while student) on oil shale research work under Prof. Arthur J. Franks. June to Sept. 1922 and after Nov. 1922 for one month on office work for Douglass, Corey & Fisk, Inc., and the City Engr. for Trinidad, mostly preparation of plats and calculation of assessment rolls for paving districts. *TT 2.5: SP 2.5.* Sept. to Nov. 1922 post-graduate student in Civ. Eng., Colorado School of Mines. Nov. 1922 to May 1923 (except 1 month) Asst. City Engr., Trinidad, having charge of engineering part of construction work of Paving Districts 15-18, supervised construction of storm and sanitary sewer systems, etc. *TT 0.5: P 0.5: RC 0.5.* May 1923 to March 1925 with Douglass, Corey & Fisk, Inc., on preliminary estimate and design and Engr. in charge of construction of \$60 000 sanitary sewerage trunk line system for Walsenburg; Paving Engr. for Dist. No. 2, Walsenburg, and Inspector on construction; office and field work for new Alamo Coal Mine in Huerfano County (development work cost about \$500 000); firm handled design of trestles and tipples for coal mines; specifications, contract, etc., for Walsenburg Sanitary Sewer Systems; design and plans for Baca Ditch Flume for Baca Consolidated Ditch Co. of Trinidad; design of Wahatoya pipe-line valve regulator house for Walsenburg, and other similar work, also surveys, inspection, estimates, reports, etc., on sewers, paving, drainage, lighting, etc.; Engr. of Constr., brick pavement, design of 3- and 4-room California type houses, Alamo Coal Co.; design, contract and specifications for Agullar Light & Power Co. ornamental lighting system, etc.; from Jan. to March 1925 on extension and maps of various mines for coal companies; training at Ft. Bliss, Tex., Officers' Reserve Corps, 348th Engrs.; 1st Lieut., Engrs. *TT 1.8: P 1.8: RC 1.8.* March 1925 Asst. County Engr., Las Animas County. April 1925 to date City Engr. in charge of all engineering works, including City water-works engineering and plumbing inspection. *TT 0.2: P 0.2: RC 0.2. TT 5.1: SP 2.6: P 2.5: RC 2.5.* Refers to G. L. Baker, L. R. Douglass, A. V. Elston, J. P. H. Fisk, W. B. Freeman, W. R. Lewis, F. W. Whiteside.

461 (9) BAILEY, SAMUEL MAJOR, 642 Nelson Pl., Newport, Ky. (Age 31. Born Newport, Ky.) 1920 C. E., Univ. of Cincinnati. May 1913 to Feb. 1915 Rodman, Draftsman, Inspector and Instrumentman on subdivision, street, sewer and water-works, with W. L. Glazier, Newport, Ky. July 1915 to Feb. 1916 Inspector on brick road construction, Kentucky State Highway Comm., last 6 months Acting Res. Engr. Feb. 1916 to June 1920 (one-half of time while co-operative student, Univ. of Cincinnati) City Engr. of Bellevue (Jan. 1916 to July 1920) and of Ft. Thomas, Ky. (July 1919 to July 1920), in charge street and sewer work and Asst. City Engr. of Newport (Feb. 1916 to Jan. 1920), in charge of street and sewer work, specification writing, design and construction. *TT 4.5: SP 4: P 0.5: RC 0.5.* Aug. 1920 to Feb. 1921 Res. Engr., North Carolina Highway Comm., in charge of bridge and gravel road construction. *TT 0.5: P 0.5: RC 0.5.* Feb. 1921 to Nov. 1922 Asst. to George Kershaw, in charge of street paving, water and sewer work, bridge design and construction, Hendersonville, N. C. *TT 1.8: P 1.8: RC 1.8: D 1.8.* March to Sept. 1923 Engr. for R. G. Rand, Contr. on street paving work, Hendersonville. *TT 0.6:*

P 0.6: RC 0.6. Jan. to Oct. 1924 Asst. City Engr. of Newport, in charge of street and sewer work and design of water filtration plant. TT 0.8: P 0.8: RC 0.8: D 0.8. Oct. 1924 to March 1925 Engr., member of firm, William Mulhane Co., on design and construction of reinforced concrete pump dry well from bottom of Ohio River to high water level, Newport. TT 0.4: P 0.4: RC 0.4: D 0.1. TT 3.6: SP 4: P 4.6: RC 4.6: D 2.7. Refers to J. R. Biedinger, G. M. Braune, E. D. Gilman, R. L. Langenheim, H. Schneider.

462 (15) BAKER, GERARD MORGAN, Laredo, Tex. (Age 28. Born St. Louis, Mo.) 1920 completed Junior year in Civ. Eng., Washington Univ. June to Sept. 1918 Mech. Draftsman, and June 1917 to Sept. 1918 Structural Draftsman, Squad Boss, and Marine Boiler Designer, Helme Boiler Co., St. Louis, Mo. TT 1.6: SP 1.6. June to Sept. 1919 Inspector, Gen. Motors Corporation, on factory building, St. Louis. TT 0.3: SP 0.3. June to Sept. 1920 Structural Draftsman with Wm. B. Ittner, Archt., St. Louis. TT 0.3: SP 0.3. Sept. 1920 to Feb. 1921 Structural Steel Detailer, Leonard Eng. Co., Chicago. TT 0.4: SP 0.4. Feb. to June 1921 Arch. Engr., handling structural design, for Perkins, Fellows & Hamilton, Archts., Chicago, Ill. TT 0.4: P 0.4. June 1921 to Feb. 1925 Structural Engr. with Wm. B. Ittner, in charge of design; Specification Writer; Constr. Supt. TT 3.5: P 3.5: RC 2: D 1. Feb. 1925 to date Supt. with Adams & Adams, Archts., San Antonio, Tex., in charge of branch office, specifications, and supervising construction. TT 0.3: P 0.3: RC 0.3. TT 6.8: SP 2.6: P 4.2: RC 2.3: D 1. Refers to R. G. Alexander, W. H. Evans, E. O. Sweetser, L. R. Viterbo, F. J. F. Weinert, F. C. Whitney, R. W. Yardley.

463 (2) BALDWIN, WILLIAM HENRY, 50 Federal St., Boston, Mass. (Age 41. Born Chelsea, Mass.) 1912 B. S., Harvard Univ. Aug. 1900 to Jan. 1904 Clerk, and Jan. 1904 to Sept. 1909 Asst. to Dist. Engr. in charge of Constr. Dept., Westinghouse Elec. & Mfg. Co., Boston, Mass. TT 11.3: SP 11.3. June to Sept. 1911 inspecting and cost computing on concrete building construction, Aberthaw Constr. Co., Buffalo, N. Y. Aug. 1912 to April 1914 Jun. Engr., Clapp & Abercrombie & Northern Mass. St. Ry. Co., Greenfield, Mass., surveying pole-line construction, street railway location and general engineering. TT 1.7: SP 1.7. April to Nov. 1914 surveying, and investigating possible water-power sites, Tennessee Eastern Elec. Co., Johnson City, Tenn. TT 0.5: SP 0.3: P 0.2. Nov. 1914 to March 1915 Asst. Supt. on work comprising construction of several concrete buildings, Aberthaw Constr. Co., New Haven, Conn. TT 0.5: P 0.5. March 1915 to Nov. 1917 with Warner, Tucker & Co., Boston, as Asst. to Vice-Pres. in charge of purchasing for and management and operation of several public utilities in the South and Southwest. TT 2.5: P 2.5. Nov. 1917 to May 1922 Asst. Supt., Pennsylvania Hospital, Philadelphia, Pa., in charge of business administration, purchasing, and supervision of power, lighting and heating plant. TT 4.5: P 4.5. May 1922 to date 1st Vice-Pres., Tennessee Eastern Elec. Co. of Johnson City, Tenn. (hydro-electric company operating in several counties of eastern Tennessee), in general charge, representing the owners in operation and management; also Vice-Pres. and Purchasing Agt., Carolina Eng. Constr. Co. and Johnson City Traction Corporation (former does contract work and for past 3 years has been in charge of all capital betterments and construction work for Tennessee Eastern Elec. Co., consisting of construction of steam station, high-tension transmission lines, substations, etc., and at present is raising dam from 34- to 70-ft. head). TT 3: P 3: RC 3. TT 24: SP 13.3: P 10.7: RC 3. Refers to B. W. Bartholomew, F. M. Gunby, W. A. Leland, C. T. Main, H. E. Sawtell, W. F. Uhl.

464 (8) BALL, SAMUEL SLOMAN, 1224 N. Montgomery Ave., Litchfield, Ill. (Age 24. Born Litchfield, Ill.) 1925 B. S., Univ. of Ill. TT 2: SP 2. Refers to H. E. Babbitt, G. W. Pickels, T. C. Shedd, C. C. Wiley, C. C. Williams.

465 (14) BENNETT, BERT ORVILLE, Dillman Bldg., Caruthersville, Mo. (Age 40. Born Oakland City, Ind.) Nov. 1906 to Sept. 1907 Chainman, Illinois Central R. R., also instrument work and inspection on 3-story frame bent timber trestles and some drafting. TT 0.7: SP 0.7. Sept. to Nov. 1907 Instrumentman, and Asst. to Div. Engr., Deering Coal Co., Clinton, Ind., also drafting. TT 0.2: SP 0.2. Nov. 1907 to Dec. 1909 Inspector, Instrumentman on hydrographic surveys and in charge of levee construction, U. S. Engr. Office, Memphis, Tenn. TT 2.1: P 2.1. Dec. 1909 to May 1914 Chf. Engr., Drainage Dist. No. 8, Missouri (104 miles drainage canals, 8 to 60 ft. bottom width, draining 100 000 acres); also from Dec. 1909 to March 1912 Highway Engr., Pemiscot County, Mo., in charge of road and bridge work; and from March 1912 to May 1914 on private and consulting work on drainage. TT 4.4: P 4.4: RC 4.4: D 2.2. May 1914 to Dec. 1917 City Engr., Caruthersville, Mo., designing and constructing sewers and street paving, also sidewalks and other engineering work. TT 3.6: P 3.6: RC 3.6: D 3.6. Dec. 1917 to Sept. 1919 2d Lieut., Engrs., U. S. Army. TT 1.7: P 1.7. March 1922 to Jan. 1923 on construction of waterworks



purification plant at Caruthersville. TT 0.7: P 0.7: RC 0.7. Jan. 1923 to Jan. 1925 Engr. and member of firm, Robertson, Carmean & Bennett Constr. Co., Caruthersville, constructed 26 miles of concrete road for Missouri State Highway Comm. TT 2: P 2: RC 2. Jan. to July 1925 in private practice as Cons. Engr. on design of two water-works plants, and a sewer system, and 18 paving contracts. TT 0.6: P 0.6: RC 0.6: D 0.6. TT 16: SP 0.9: P 15.1: RC 11.3: D 6.4. Refers to J. F. Brown, J. A. Hakman, C. A. Haskins, T. S. Leavitt, F. W. Sayers, C. E. Stiver, E. C. Thomas, N. T. Veatch, Jr.

466 (1) BENSEL, JOHN ANDERSON, Jr., 17 South Parkway, East Orange, N. J. (Age 22. Born New York City.) 1924 C. E., Princeton Univ. July 1924 to May 1925 Jun. Engr., New York and New Jersey Bridge and Tunnel Comm. TT 2.9: SP 2.9. Refers to G. E. Beggs, F. H. Constant, G. H. Pegram, J. W. Smith, F. L. Stuart.

467 (1) BERMAN, MORRIS, 638 Stone Ave., Brooklyn, N. Y. (Age 28. Born in Poland.) 1916 to 1917 Mech. Draftsman, Adriance Machine Works. TT 1: SP 1. 1917 to 1919 Struct. and Elec. Draftsman on Air Nitrate Plant No. 2, Air Nitrates Corporation, J. G. White and Westinghouse, Church, Kerr & Co. TT 2: SP 2. 1919 to 1923 in private practice as Archt. and Engr., Brooklyn, N. Y., and for E. Berman, Gen. Contr., New York City, made plans for 3-story parochial school (35 by 80 ft.), and for one-story iron shop, East New York Iron Works, Inc.; also filed large number of engineering computations, as steel drawings and alterations. TT 4: P 4: RC 2: D 1. May to Dec. 1924 Bldg. Supt. in entire charge on 2-family houses at Forest Hills Terrace for Louis Glanz, Inc., New York City. TT 0.5: P 0.5. Jan. 1925 to date Struct. Draftsman, Brooklyn Edison Co., Mech. Engr. Dept. TT 0.5: P 0.5. TT 8: SP 3: P 5: RC 2: D 1. Refers to L. Goodman, C. W. Hudson, F. O. X. McLoughlin, J. C. Riedel, D. B. Steinman.

468 (10) BLINN, RAY SHARP, 355 N. E. 15th Terrace, Miami, Fla. (Age 55. Born Sparta, Ohio.) 1893 B. Sc., Ohio State Univ. (major mathematics and engineering). Nov. 1897 to July 1898 Topographer, El Paso & North Eastern Ry. TT 2.7: SP 2.7. 1900 location reconnaissance, Canton & Akron Elec. Ry. TT 0.2: P 0.2: RC 0.2. 1901 to 1903 Res. Engr., Buffalo, Rochester & Pittsburgh Ry. (under Div. Engr.) at Indiana, Pa., tunnel construction and large concrete structures. TT 2: P 2: RC 2. 1903 to 1904 Asst. in Eng. Dept., Ohio State Univ. TT 0.2: SP 0.2. 1904 to 1906 Res. Engr. then Acting Div. Engr., Indianapolis Southern, in charge of nine residencies, under construction, heavy construction. TT 2: P 2: RC 2. 1906 to 1908 Engr. in charge of paving, Board of Public Service, Mt. Vernon, Ohio. TT 2: P 2: RC 2: D 2. 1908 to 1910 Engr. in charge of all paving, City of Columbus, Ohio (under City Engr.) (\$1 000 000 annually). TT 2: P 2: RC 2: D 2. 1910 to 1916 Chf. Engr. and Director of Public Service, Mt. Vernon, Ohio. TT 6: P 6: RC 6: D 6. 1916 to 1917 City Mgr. and City Engr., Westerville, Ohio. TT 1: P 1: RC 1: D 1. 1918 Engr. in charge of all engineering at Erie Proving Grounds, Port Clinton, Ohio, embracing sewers, paving, water, buildings and gun emplacements. TT 0.5: P 0.5: RC 0.5: D 0.5. 1919 to 1920 City Mgr. and Engr., Lapeer, Mich. TT 0.5: P 0.5: RC 0.5: D 0.5. 1920 to 1921 Director of Public Service and Safety in charge of all engineering and water-works construction, Coshocton, Ohio. TT 1: P 1: RC 1: D 1. 1921 Chf. Engr., track and terminals, Wm. H. Horst Co., Savanna, Ill., constructing Savanna Proving Grounds. TT 0.3: P 0.3: RC 0.3. 1921 to 1922 Chf. Engr., scenic highway in Blue Ridge, Allegheny County, N. C., Board of County Commrs. TT 2: P 2: RC 2: D 2. 1923 to 1925 in private practice of structural engineering, New Smyrna, Fla. TT 2: P 2: RC 2: D 2. 1925 to date Superv. Engr. for Marye, Alger & Alger, Atlanta, Ga., on Southern Bell Telephone Bldgs. at Miami, W. Palm Beach and at Orlando. TT 0.2: P 0.2: RC 0.2. TT 24.6: SP 2.9: P 21.7: RC 21.7: D 17. Refers to R. W. Alger, P. Hartung, C. T. Morris, E. G. Robinson, W. J. Sherman.

469 (1) BONINI, FRANCIS JOSEPH, 227 North Terrace Ave., Mt. Vernon, N. Y. (Age 22. Born Palermo, Italy.) Sept. 1919 to May 1922 Draftsman, Sanborn Map Co., Pelham, N. Y., tracing and lettering; at times making construction drawings. TT 2.7: SP 2.7. May to Oct. 1922 Chainman and Rodman with Town Engr. of Pelham; Oct. 1922 to date Transitman and Jun. Asst. Engr. on real-estate surveys, subdivisions and development of properties in Westchester County; municipal improvements in Pelham; Transitman on proposed water project in Westchester County (in co-operation with Alexander Potter, Cons. Engr.); acting as Chf. of Party during absence of Chf.; also (Aug. 1922 to date) studying Civ. Eng., International Correspondence Schools; May 1923 to date Corporal of Intelligence Sec., Headquarters Co., 71st Infantry, N. Y. N. G.; Instructor in Military Map Making (during drill nights); had charge of party making map of state camp, Peekskill, N. Y., for maneuver purposes (during

camp period); at times making plans for proposed changes in Armory. *TT 3: SP 3. TT 5.7: SP 5.7.* Refers to J. L. Crider, J. F. Fairchild, F. J. Kunesh, H. P. Michener, A. Potter, C. K. Smoley, H. R. Thayer.

**470 (1) BORCHGREVINK, HENRIK CHRISTIAN**, 999 Bergen Ave., Jersey City, N. J. (Age 32. Born Romedal, Norway.) 1915 C. E., Norway's Inst. of Tech., Trondhjem, Norway. June to Sept. 1915 Draftsman, Dept. of Bridges, Norwegian State R. Rs. *TT 2.2: SP 2.2.* Sept. to Dec. 1915 Detailer and Designer of structural steel with Gutehoffnungshütte, Sterkrade, Germany. *TT 0.3: SP 0.1: P 0.2: D 0.2.* Dec. 1915 to Sept. 1916 with Actien-Gesellschaft für Beton und Monierbau, Essen, Germany, on design and estimating for bridges, warehouses and industrial buildings (reinforced concrete), including design for reinforced concrete arch bridges (two spans approx. 90 ft. and one approx. 175 ft.), also general field supervision of these structures. *TT 0.8: P 0.8: D 0.8.* Feb. to Sept. 1917 with Dept. of Bridges, Norwegian State R. Rs., on design and checking of reinforced concrete and structural steel bridges. *TT 0.6: P 0.6: D 0.6.* Sept. 1917 to Feb. 1921 with Graven & Pihl Co., Engrs. and Contrs., Oslo, Norway, in charge of Eng. Dept. and general supervision of field construction. *TT 3.5: P 3.5: RC 3.5.* April to June 1921 on surveying work at Syosset, L. I. *TT 0.2: SP 0.1: P 0.1.* June to Aug. 1921 with Alexander Potter, Cons. Engr., New York City, designing and drafting reinforced concrete. *TT 0.2: SP 0.1: P 0.1.* Aug. 1921 to date with James Mitchell, Inc., Jersey City, N. J., in charge of Eng. and Estimating Dept. *TT 3.7: P 3.7: RC 3.7.* *TT 11.5: SP 2.5: P 9: RC 7.2: D 1.6.* Refers to A. P. Andersen, B. Arneberg, A. W. Eden, H. P. R. Jacobsen, E. J. Spoerer.

**471 (8) BROFOS, GUSTAV FRITJOF**, 5492 Cornell Ave., Chicago, Ill. (Age 33. Born Holmestrand, Norway.) 1913 graduated from Kristiania Elementaertechniske Dagskole. 1922-1923 student, Chicago (Ill.) Tech. Coll. April 1910 to Sept. 1912 Draftsman (Instrumentman), Heidenreich & Co., Christiania, Norway, sanitary and heating installations. *TT 2.5: SP 2.5.* Aug. 1913 to April 1914 Draftsman, A/S Elektrisk Bureau, Christiania, power, light and telephone installations. *TT 0.7: SP 0.7.* June 1914 to Feb. 1916 Eng. Student, Bell Telephone Mfg. Co., Antwerp, Belgium, various student work, chiefly installing automatic telephone exchanges in Scandinavian countries. *TT 1.7: SP 1.7.* Aug. 1916 to April 1917 Asst. Engr. with Olaf Knoph, Cons. Engr., Christiania, industrial plants of reinforced concrete and structural steel. *TT 0.7: P 0.7: RC 0.7.* May 1917 to Oct. 1918 Supt., Kjeller Flyveplass (Aerial Dept. of Army), Christiania, construction work, wood, masonry, reinforced concrete, structural steel, aqueduct and sewerage work, road construction, etc. *TT 1.6: P 1.6: RC 1.6: D 1.6.* Nov. 1918 to May 1920 Asst. Engr., Hamar (Norway) Steel Works, new plant, reinforced concrete, structural steel and brick construction, road, drainage, sewers, water-works, quarry. *TT 1.6: P 1.6: RC 1.6: D 1.6.* May 1920 to Sept. 1921 Plant Engr., Nordviken Bruk, Hamar, in charge of all construction added to the old plant. *TT 1.3: P 1.3: RC 1.3: D 1.3.* Sept. 1921 to June 1922 various minor work in Norway. July 1922 to May 1923 Bldg. Inspector, Western Elec. Co., Hawthorne, Chicago, reinforced concrete, brickwork, gypsum roofing, etc. *TT 0.8: P 0.8: RC 0.8.* May 1923 to date Bldg. Inspector, Illinois Central R. R., Bldg. Dept., Chicago, in charge of general terminal improvements in Council Bluffs, Iowa (reinforced concrete coaling station, 300 tons, etc.) (1¼ years); at present in charge of 1 200-ton reinforced concrete coaling station and hump scales facilities at Markham Yard, Homewood, Ill. *TT 1.9: P 1.9: RC 1.9.* *TT 12.8: SP 4.9: P 7.9: RC 7.9: D 4.5.* Refers to C. I. Anderson, M. Johnson, F. R. Judd, O. W. Mellin, W. C. Pauli.

**472 (13) BROOKS, THOMAS**, 2045 N. Catalina St., Los Angeles, Cal. (Age 63. Born Grass Valley, Cal.) 1887 to 1902 Asst. Supt., Los Angeles City Water Co., having personal supervision of all pipe construction work and (in absence of Supt. and Engr.) in full charge of all construction work, consisting of trunk lines, mains, reservoirs, concrete work, or any other construction work. *TT 15: P 15: RC 15.* 1902 to date Asst. Supt., City Water Dept., Los Angeles, in full charge of Domestic Pipe Constr. Div. (except San Fernando Valley Dist.) of Dept. of Public Service, work principally supervision of designing, planning and laying out of major part of construction of the Department, laying of all trunk lines, mains, installation of fire hydrants and gate valves, repairs and betterments; construction and maintenance of large water kickback tanks; also supervision of warehouse and machine shops. *TT 23: P 23: RC 23: D 19.* *TT 38: P 38: RC 38: D 19.* Refers to E. A. Bayley, W. W. Hurlbut, W. Mulholland, J. E. Phillips, D. L. Reaburn, H. A. Van Norman.

**473 (11) BROWN, ROBERT FRANCIS**, 415 Marsh-Strong Bldg., Los Angeles, Cal. (Age 29. Born Osage City, Kans.) Jan. to Sept. 1916 Draftsman on water-works, hydro-electric and sewer improvements, June to Aug. 1917 in charge of construction of water-works system at

Ft. Madison, Iowa, and July to Sept. 1919 on valuation of St. Joseph (Mo.) Water-Works System, collecting data for valuation of distribution system, pump station and reservoirs, all for Burns & McDonnell Eng. Co., Kansas City, Mo. *TT 1: SP 0.7: P 0.3: RC 0.3.* Sept. 1916 to June 1917 and Sept. 1919 to Jan. 1920 student, School of Eng., Univ. of Missouri. *TT 0.3: SP 0.3.* Aug. 1917 to July 1919 with 110th Engrs., 35th Div., U. S. Army. Jan. 1920 to Oct. 1923 on general engineering work with Burns & McDonnell Eng. Co., as follows: Jan. 1920 to April 1921 collecting data and making valuations of water, electric light and gas plants, making preliminary surveys for reports on improvements to a number of water-works, sewer and gas systems; April to July 1921 in charge of construction of part of \$500 000 sewer system for City of Ft. Madison, Iowa; July 1921 to June 1922 estimating and design of sewer systems, water-works plants, including field surveys to determine feasibility of the projects; June to Sept. 1922 in charge of construction of earthen dam (12 ft. high) with concrete core wall and concrete gravity type spillway on gravel foundation; Sept. 1922 to Oct. 1923 office and field work, field surveys, preliminary estimates and reports for improvements to various municipal improvements and designing of distribution systems, reservoirs and concrete structures. *TT 3.7: SP 0.8: P 2.9: RC 1.1: D 0.9.* Oct. 1923 to date Asst. Engr., Burns-McDonnell-Smith Eng. Co., Los Angeles, Cal., in general charge of all office, field and construction work, including 18 miles of intercepting mains and 10 miles of 42-in. to 54-in. diameter semi-elliptical monolithic concrete sewer outfall for Glendale, Cal.; sewer system for Blythe, Cal., consisting of sewer mains, sewage pumps and Imhoff tank treatment plant; water-works improvements for Needles, Cal., including valuation of privately owned plant, fixing value, and planning new walls, pumps, distribution system and elevated tower. *TT 1.6: P 1.6: RC 1.2: D 0.8. TT 6.6: SP 1.8: P 4.8: RC 2.6: D 1.7.* Refers to J. E. Byers, M. P. Hatcher, K. K. King, W. T. Knowlton, R. E. McDonnell, B. I. Means, C. A. Smith.

474 (6) BRYAN, KENNERLEY, Jr., 1306 Fulton Bldg., Pittsburgh, Pa. (Age 34. Born Flushing, N. Y.) Feb. 1911 to June 1913 Rodman, Instrumentman, Inspector and Eng. Asst., Western Canada Power Co. of Vancouver, B. C., Canada, on construction of 50 000-h. p. hydro-electric development at Stave Falls, B. C. *TT 2.3: SP 2.3.* June 1913 to March 1916 Chf. of Party, Granby Consolidated Min., Smelting & Power Co., at British Columbia, on construction of copper smelter, Res. Engr. for Company for 6 months at Valdez, Alaska, on construction of wharves, ore bunkers, aerial tramway, etc.; in 1916 Instrumentman on super-power survey of Columbia River at Kettle Falls, Wash. *TT 2.8: SP 2.3: P 0.5.* May 1916 to April 1917 Instrumentman, Chf. of Party, Concrete Foreman and later Night Supt. of Constr. on concrete dam for Pacific Mills, Ltd., at Ocean Falls, B. C.; supervised pouring of concrete. *TT 0.9: SP 0.4: P 0.5: RC 0.5.* April to Dec. 1917 Chf. of Party and Eng. Asst., Granby Consolidated Min., Smelting & Power Co., at Anyox, B. C., steel, concrete and heavy timber construction, surveys, etc. *TT 0.7: SP 0.7.* July 1919 to Feb. 1920 Supt. of logging camps for Brooks Bidlake Cedar Co. (not engineering work). Feb. to July 1920 Gen. Labor Foreman, Westinghouse, Church, Kerr Co., on construction of addition to plant of Westinghouse Elec. & Mfg. Co. at Essington, Pa. *TT 0.4: SP 0.4.* July 1920 to May 1921 with Stone & Webster as Chf. of Party and later Asst. to Res. Engr. on construction of Delaware Station for Philadelphia Elec. Co., at Philadelphia, Pa. *TT 0.8: SP 0.5: P 0.3.* May 1921 to June 1922 Mgr., Atlas Paper Box Co., Philadelphia (not engineering work). July 1922 to Feb. 1923 Concrete Engr., Wm. Steele & Sons, on reinforced concrete building construction in Philadelphia. *TT 0.6: P 0.6.* Feb. to Dec. 1923 Supt. and Engr. of Constr., Cement-Gun Contr. Co., in charge of reinforced gunite building construction at Pottsville, Pa., also redesigned considerable part of this work from brick and reinforced concrete to reinforced gunite. *TT 0.8: P 0.8: RC 0.8: D 0.2.* Dec. 1923 to date Dist. Mgr. and Engr., same Company, at Pittsburgh, Pa., in charge of sale of cement-guns and auxiliary equipment, promotion of gunite work, writing of specifications, estimating and selling of contracts, and general engineering service on this type of construction. *TT 1.6: P 1.6: RC 1.6. TT 10.9: SP 6.6: P 4.3: RC 2.9: D 2.* Refers to B. C. Collier, J. W. Hansen, L. R. Talbot, J. W. Townsend, Jr., M. A. Webster.

475 (1) BUCKLER, JOHN ALDEN, 31 Park Ave., Bloomfield, N. J. (Age 25. Born Springfield, Mass.) 1925 B. S., Mass. Inst. Tech. (class of 1924). July to Oct. 1924 Jun. Engr. on Holland Tunnel, New Jersey side, on inspection of progress and quality of work on surface and in compressed air. *TT 2.4: SP 2.4.* Refers to C. B. Breed, M. I. Killmer, J. H. Richardson, C. M. Spofford, C. H. Sutherland.

476 (10) BUCKLEY, REX ELMER, P. O. Box 2565, St. Petersburg, Fla. (Age 35. Born Niagara Falls, Ont., Canada.) 1911-1913 (2 years) student, Valparaiso Univ. Oct. 1906 to Dec. 1908, May to Nov. 1909, May-July 1910 and May to Dec. 1912 in City Engr.'s Office,

Niagara Falls, Ont., Canada. *TT 3.5: SP 3.5.* Dec. 1900 to May 1910 in City Engr.'s Office, Aberdeen, Wash. *TT 0.4: SP 0.4.* Feb. to Sept. 1911 and May 1913 to Aug. 1914 Chf. of Party on power-house construction, Ontario Power Co. *TT 1.9: SP 1: P 0.9.* Aug. 1914 to June 1916 in charge of Lock 7, Sec. 3, Welland Ship Canal; precise base-line surveys and calculations. *TT 1.8: P 1.8: RC 1.5: D 0.3.* June 1916 to June 1924 with Canadian Niagara Power Co., Niagara Falls Power Co. and Niagara, Lockport & Ontario Power Co. (one Eng. Dept.), in charge of engineering on construction of transmission lines, sub-stations, outdoor switching stations, duct lines, pavements, power-house and ice run alterations; preparation of plans and estimates of same; preliminary surveys for several proposed developments and construction of dam and power house, on Salmon River. *TT 8: P 8: RC 7: D 1.* June 1924 to date with The Boulevard & Bay Land & Development Co., St. Petersburg, Fla., in charge of field work, plans and estimates on large development project; since Feb. 1925 Chf. Engr. *TT 1.1: P 1.1: RC 0.5: D 0.6.* *TT 16.7: SP 4.9: P 11.8: RC 9: D 1.9.* Refers to H. J. Cowie, O. D. Dales, N. R. Gibson, T. H. Hogg, R. A. McLaren, A. W. Pierson, R. V. Rose.

477 (12) BULLEN, CARROLL ALLING, 260 Jessup St., Portland, Ore. (Age 20. Born Brookings, S. Dak.) 1925 B. S. in Civ. Eng., Ore. State Coll. *TT 2: SP 2.* Refers to S. D. Clinton, G. C. Mason, J. R. Newell, J. H. Polhemus, S. H. Sims.

478 (12) BULLOCK, VIRGIL WILLIAM, 5011 Seventeenth Ave. N. E., Seattle, Wash. (Age 29. Born Blanchard, Iowa.) 1925 B. S. in C. E., Univ. of Wash. Oct. 1920 to Oct. 1921 Draftsman, Washington State Highway Dept., drafting and computations. *TT 3.* July to Dec. 1922 Field Draftsman with Stone & Webster, Inc., transmission line survey, maps, profiles and computations. *TT 0.4.* April to Oct. 1923 with City of Seattle, Skagit River Development, as Draftsman, steel design (2 months), Levelman, substation and transmission line construction (4 months). *TT 0.5: D 0.2.* April to Dec. 1924 Office Engr. with Stone & Webster, Inc., Baker River Project, Concrete, Wash., design of construction plant and equipment and charge of mapping. June 1925 to date structural designing with H. G. Balcom, Cons. Engr., New York City. *TT 0.7: RC 0.2: D 0.5.* *TT 4.6: RC 0.2: D 0.7.* Refers to W. F. Allison, I. L. Collier, C. C. More, J. C. Rathbun, H. K. Rubey, R. Smith, C. Wernecke.

479 (12) BURKHALTER, WAYNE EDISON, 662 Flanders St., Portland, Ore. (Age 44. Born Maquon, Ill.) 1903 B. S. in Civ. Eng., Univ. of Ill. June to Sept. 1902 Draftsman, St. Louis, Memphis & Southeastern Ry. Co. *TT 2: SP 2.* June to Sept. 1903 Instrumentman and drafting, Oliver Iron Min. Co. *TT 0.2: SP 0.2.* Sept. 1903 to June 1904 Asst. in teaching surveying and topographic drafting, Massachusetts Inst. of Technology. *TT 0.8: P 0.8.* Oct. 1904 to Oct. 1905 Rodman and Levelman, Isthmian Canal Comm.; instrument work, field measurements, computed stresses and made report on strength of Panama R. R. bridges. *TT 1: SP 1.* March to Nov. 1906 with Chicago, Milwaukee & St. Paul Ry., 4 months as Draftsman, and 5 months Res. Engr. on construction on 15-mile residency in Yellowstone Valley. *TT 0.7: SP 0.3: P 0.4: RC 0.4.* March 1907 to Feb. 1910 Office Engr., Panama R. R. Co., in charge of designing and drafting and of surveys in office of Chf. Engr.; designed bridges, culverts, depots, yards, docks, residences and track standards. *TT 2.9: P 2.9: RC 2.9: D 2.9.* May to Oct. 1910 with Oregon Trunk Ry., 2 months as Res. Engr. on construction 7-mile residency, involving entire relocation, and 4 months Bridge Draftsman designing wooden bridges and ferry inclines. *TT 0.5: P 0.5: RC 0.5: D 0.3.* Oct. 1910 to Oct. 1917 with Spokane, Portland & Seattle Ry. Co., until April 1913 as Bridge Engr. on redesign and reconstruction of steel bridges on concrete substructures, lining tunnels, filling trestle bridges and bridge maintenance; also designed several steel bridges for Oregon Elec. Ry.; then Office Engr. and Prin. Asst. Engr. in direct charge of all engineering (under Chf. Engr.) on about 1 000 miles of railroad, excavating tunnels, filling trestles, building bridges, depots, warehouses, yards, etc. *TT 7: P 7: RC 7: D 7.* Nov. 1917 to March 1918 Div. Engr. on maintenance of way, Mobile & Ohio R. R. Co. *TT 0.4: P 0.4: RC 0.4.* March 1918 to date Asst. Engr., Oregon-Washington R. R. & Navigation Co., in charge of Valuation Order No. 3 and physical statistics; also special investigations relative to cost of maintenance and train operation and economics of line and grade revisions, etc.; also handled various special and confidential matters. *TT 7.1: P 7.1: RC 7.1: D 2.5.* *TT 22.6: SP 3.5: P 19.1: RC 18.3: D 12.7.* Refers to R. Budd, L. P. Campbell, J. F. Clarkson, S. Murray, C. K. Smith, F. C. Squire, H. P. Warren.

480 (14) BURTON, WILLARD AUGUSTUS, 229 W. Walker St., Marcelline, Mo. (Age 35. Born Mound City, Kans.) 1917 B. S. in Civ. Eng., Univ. of Kans. School of Eng. July to Sept. 1916 making sanitary surveys for Kansas State Board of Health. *TT 2.* Jan. to



March 1917 Asst. to Right-of-Way Agt., Atchison, Topeka & Santa Fe Ry. Co., making field investigations and reporting on right-of-way valuation. *TT 0.2*. April 1917 to Aug. 1918 with Black & Veatch, Cons. Engrs., Kansas City, Mo., preliminary work in field, making plans in office and Res. Engr. on construction. *TT 1.3: RC 1.3*. Sept. 1918 to July 1919 Asst. Engr., Kansas State Board of Health, Lawrence, Kans., also Asst. Prof. in San. Eng., Kansas Univ. Eng. School; testing and inspecting operation of all water and sewage plants in Kansas; making sanitary investigations. *TT 0.9: RC 0.9*. Aug. 1919 to April 1923 Constr. Engr. with C. J. McCoy Constr. Co. of Emporia, Kans., constructing sewers and sewage-disposal plant at Columbia, Mo., concrete and brick paving, storm and sanitary sewers at Emporia, Kans., also work at Cheney and Strong City, Kans. *TT 3.7: RC 3.7*. May to Aug. 1923 with Merkle Machinery Co., Kansas City, Mo., on municipal construction at Corinth, Miss. *TT 0.2: RC 0.2*. Sept. 1923 to date Constr. Engr. with Ray & Son, Gen. Constrs., constructing sewers and disposal plants at Salisbury and Marceline, Mo., concrete paving at Brookfield, Mo. *TT 1.4: RC 1.4*. *TT 9.9: RC 7.7*. Refers to E. B. Black, E. H. Dunmire, C. A. Haskins, A. P. Learned, C. J. McCoy, F. M. Veatch, N. T. Veatch, Jr.

**481 (10) BUTTS, CLARENCE WILLIAMSON**, 115-B Lyle Ave., Nashville, Tenn. (Age 49. Born Covington, Ky.) 1895 to 1900 Chainman, Rodman and Instrumentman with Earnshaw & Punshon, Engrs. *TT 5: SP 4: P 1: RC 1*. 1900 to 1901 Asst. Engr., St. Louis & Suburban St. Ry. Co., in charge of design and construction of about 8 miles of double-track line; also design and construction supervision of paint shop. *TT 1: P 1: RC 0.7: D 0.3*. 1901 to 1906 Computer and Draftsman, City of St. Louis, including map work and computations of dimensions and areas of lots, subdivisions, etc.; also title examinations and street improvement computations. *TT 5: SP 5*. 1906 to 1907 Asst. Engr., Great Northern R. R. Co., in charge of construction of 9 miles of line, including station ground layout. *TT 1: P 1: RC 1*. 1907 to 1908 Asst. Engr., Western Pacific R. R. Co., in charge of 39 miles of construction in Nevada. *TT 1.5: P 1.5: RC 1.5*. 1908 to 1910 Res. Engr., Oregon Short Line R. R. Co., in charge of 20 miles of construction. *TT 1.5: P 1.5: RC 1.5*. 1910 to 1911 Field Engr., Kessler Eng. Co., St. Louis, in charge of survey and construction, principally park work. *TT 0.5: P 0.5: RC 0.5*. 1911 to 1913 Res. Engr., O. S. L. R. R. Co., in charge of 6 miles of mountain construction. *TT 2: P 2: RC 2*. 1913 to 1915 Asst. Engr., Cincinnati, New Orleans & Texas Pacific R. R. Co., field charge of betterment work, such as bridge construction, building additions, and track betterment, yard enlargements, including installation of sewer system for terminal. *TT 2: P 2: RC 2*. 1915 to 1918 Chf. Engr., Tennessee Ry., Oneida, Tenn., in charge of design, location and construction of 12 miles, extension, also maintenance engineering for existing line, and reconnaissance investigations for proposed lines. *TT 3: P 3: RC 2.7: D 0.3*. 1918 to 1919 in private practice, principally railroad and mine engineering. *TT 1: P 1: RC 0.9: D 0.1*. 1919 to date Designer, Res. Engr., Office Engr. and Asst. Div. Engr., Tennessee State Highway Dept., designing plans for road construction, survey, office work; field and office work in connection with construction and maintenance work. *TT 5.5: SP 1: P 4.5: RC 3: D 1.5*. *TT 29: SP 10: P 19: RC 16.8: D 2.2*. Refers to R. H. Baker, E. D. Cruise, N. Cunliff, D. Q. McComb, J. H. Smith, G. B. Stone, M. Sullivan, J. C. Travilla, W. H. Wilson.

**482 (8) CALKINS, ALFRED STONE**, City Hall, Joliet, Ill. (Age 57. Born Allegan, Mich.) 1891 B. S. in C. E., Univ. of Mich. Feb. 1892 to Aug. 1893 Rodman, Elgin, Joliet & Eastern R. R. *TT 3.5: SP 3.5*. Aug. 1893 to May 1899, May 1901 to May 1908 and Aug. 1913 to Feb. 1920 Asst. City Engr., Joliet, Ill., on surveys, preliminary work for all public improvements, also in charge of construction of sewers, water mains and pavements. *TT 19.2: SP 2: P 17.2: RC 15.7: D 1.5*. May 1899 to May 1901 Supt. of Streets, City of Joliet, Ill., in complete charge of street cleaning, garbage disposal, paving repairs, sewer work, bridges and their repairs. *TT 2: P 2: RC 2*. May 1908 to June 1909 Asst. Engr., Illinois Steel Co., Joliet, had charge of construction of some buildings at the coke plant. *TT 1.1: P 1.1: RC 1.1*. June 1909 to May 1910 City Engr., Morris, Ill., on design and construction of pavements and design of sewer system. *TT 0.9: P 0.9: RC 0.6: D 0.3*. May 1910 to Dec. 1911 Asst. Engr., Track Dept., Chicago Ry. Co., had complete charge of paving repairs during rehabilitation work. *TT 1.6: P 1.6: RC 1.6*. 1911 to Aug. 1913 in private practice, also City Engr. of Morris, Plainfield and Lockport, Ill.; designed, constructed pavements for Morris, water mains for Plainfield and sewage system and pavements for Lockport. *TT 1.6: P 1.6: RC 1.6: D 0.5*. Feb. 1920 to date City Engr. of Joliet, Executive of the Eng. Office. *TT 5.2: P 5.2: D 5.2*. *TT 35.2: SP 5.5: P 29.7: RC 22.6: D 7.5*. Refers to F. C. H. Arentz, M. G. Barnes, G. C. Habermeyer, J. B. Hittell, G. C. D. Lenth, A. Montzheim, W. M. Smith.

**483 (1) CALLAHAN, ARTHUR FRANCIS**, 1985 Honeywell Ave., New York City. (Age 30. Born Weehawken, N. J.) 2 years (evenings) student, Columbia Univ. Extension Courses. July 1912 to April 1913 estimating, Alfred E. Norton & Co., Engrs., New York City. *TT 0.8: SP 0.8.* June 1913 to Jan. 1914 drafting, Charles Brown Co., Archts. *TT 0.6: SP 0.6.* March 1914 to April 1915 miscellaneous drafting and timekeeping. *TT 1.1: SP 1.1.* July 1915 to March 1920 (except July 1917 to April 1919 with U. S. Army, overseas) layout work and designing, Westinghouse, Church, Kerr Co., New York City. *TT 3: SP 1: P 2: D 1.* April to Oct. 1920 with Thomas W. Lamb, Archt., New York City, designing and layout work, at Bayside office. *TT 0.5: P 0.5: D 0.2.* Nov. 1920 to Aug. 1922 and Oct. 1924 to date Engr., valuation work, J. L. Murrie & Co., Engrs., New York City. *TT 2.3: P 2.3: RC 2.3.* Sept. 1922 to Oct. 1924 in private practice as Contr., on several houses, one at Elmhurst, one in the Bronx, one in Larchmont Gardens, also some small frame houses and alterations; Thompson Hill Garage, a Taxpayer, etc.; in most cases did the outside work on these. *TT 2.1: P 2.1: RC 2.1. TT 10.4: SP 3.5: P 6.9: RC 4.4: D 1.2.* Refers to E. E. Baptiste, H. J. Carroll, J. H. Gaynor, W. K. Peasley, T. K. Thomson.

**484 (1) CALLAHAN, CORNELIUS JOSEPH**, 120 Liberty St., New York City. (Age 35. Born Lowell, Mass.) 1914 B. S., Mass. Inst. Tech. June 1914 to Jan. 1915 Constr. Engr., John T. Scully Foundation Co., Cambridge, Mass., estimating costs of building construction, drafting, line and grade work, design of small concrete slabs and beams. *TT 2.5: SP 2.5.* Jan. 1915 to Jan. 1916 Jun. Asst., Public Service Comm., New York State, line and grade work on layout of Lexington Ave. Subway, New York City, in charge of field party. *TT 1: P 1: RC 1.* Jan. 1916 to May 1918 Constr. Engr. with John T. Scully, Inc., Boston, Mass., in charge of work on building construction, steam shovel excavation, concrete, brick and steel building construction, estimating new work, drafting, and cost-keeping. *TT 2.3: P 2.3: RC 2.3.* May 1918 to March 1919 Ensign, U. S. Naval Aviation Detachment, inspection and checking contracts between Bureau of Navigation, U. S. Navy, and Curtis Aeroplane Co., at Buffalo, N. Y. March 1919 to Feb. 1920 Archt.'s Supt. with Ballinger & Perrot, Archts. and Engrs., Philadelphia, Pa., in charge of alterations to six brick and concrete buildings in Ballston Spa, N. Y., put in new concrete floors and new roofs, took down steel stack, by-passed stream and repaired old timber dam. *TT 0.9: P 0.9: RC 0.9.* Feb. 1920 to Jan. 1921 Appraiser of brick, concrete and frame buildings, for Continental Appraisal Co. in New York City (6 months), and American Appraisal Co., Milwaukee, Wis. (5 months), in Ohio and Western New York State. *TT 0.9: P 0.9: RC 0.9.* Jan. to Aug. 1921 Treasurer and Member of firm, The Empire Appraisal Co., Syracuse, N. Y., in charge of all appraisal work, consisting of valuations of industrial buildings and machinery in Syracuse, Rochester and Buffalo, N. Y. *TT 0.6: P 0.6: RC 0.6.* Aug. 1921 to date in private practice at New York City, valuation of industrial properties for insurance, financial, and tax purposes. *TT 3.9: P 3.9: RC 3.9. TT 12.1: SP 2.5: P 9.6: RC 9.6.* Refers to H. Abbott, E. F. Atwood, A. S. Holway, C. H. Ober, C. M. Spofford, A. V. A. Swift.

**485 (14) CARR, JOHN ROLAND**, Basehor, Kans. (Age 22. Born Basehor, Kans.) 1925 B. S. of C. E., Kans. Univ. March to June 1925 (one-half of each day while not in school) on design of reinforced concrete for County Engr., Douglas County, Kans. *TT 2: SP 2.* Refers to E. Boyce, C. M. Buck, W. V. Buck, W. C. McNown, H. A. Rice, F. A. Russell.

**486 (3) CARR, WALLACE BRADBURY**, St. Lawrence Valley Power Corporation, Potsdam, N. Y. (Age 39. Born Quincy, Mass.) 1906 B. S., Univ. of Ark. 1906 to 1908 Inspector, Stone & Webster Eng. Corporation, steam power plant construction. *TT 2.2.* 1909 to 1911 Draftsman with Chas. T. Main, Cons. Engr., on industrial plant and hydro-electric design. *TT 2.7: D 2.7.* 1911 to 1913 Draftsman, Ontario Power Co., on hydro-electric design. *TT 2: D 2.* 1913 to 1915 private miscellaneous engineering work. *TT 1.5.* 1915 to 1916 in charge of erection, Joliet (Ill.) Bridge & Iron Works. *TT 1: RC 1.* 1916 Draftsman, Semet Solvay Co., on steam power plant design. *TT 0.7: P 0.7.* 1916 to date Hydr. Engr., Aluminum Co. of America, St. Lawrence Valley Power Corporation and allied companies, on hydro-electric design and construction. *TT 8.7: RC 8.7: D 8.7. TT 18.9: RC 9.7: D 14.2.* Refers to E. S. Cullings, R. F. Ewald, C. B. Hawley, J. W. Rickey, G. W. Thompson.

**487 (10) CARTER, HENRY GRAY**, 215 Terminal Sta., Macon, Ga. (Age 33. Born Marlin, Tex.) 1914 B. S. in C. E., Ala. Pol. Inst. Sept. 1916 to Feb. 1917 in Chf. Engr.'s Office, Central of Georgia Ry. Co., on general engineering, drafting and location. *TT 2.5.* Feb. 1917 to Jan. 1918 Asst. Engr., City of Columbus, Ga., in charge of sewer and paving work. *TT 0.9: RC 0.9.* Jan. 1918 to date with C. of G. Ry. Co., until Jan. 1925 as Asst. Engr., in Chf. Engr.'s Office, drafting, location, construction and maintenance (1 year), and on South-

western Div., on location, designing, maintenance and construction (6 years); since then Roadmaster, Southwestern Div., in charge of construction and maintenance. *TT 7.2: RC 6.4. TT 10.6: RC 7.3.* Refers to G. A. Belden, R. S. Garrett, H. S. Gibboney, S. Gordy, B. M. Hall, Jr., J. A. Higgs, Jr.

**488 (9) CAYE, WOOLSEY MOORMON**, 2120 West Jefferson St., Louisville, Ky. (Age 40. Born Louisville, Ky.) June 1905 to Dec. 1908 Draftsman, Louisville (Ky.) Water Co., drawing maps, plotting records, tracing, etc. *TT 3.5: SP 3.5.* Dec. 1908 to March 1912 with Commrs. of Sewerage of Louisville as Inspector on construction outfall and sanitary trunk sewers, sewer inverted siphons and appurtenant structures, and Draftsman on maps, plats, detail drawings for record plans of sewers constructed. *TT 3.3: SP 3.3.* March 1912 to Feb. 1915 Asst. Engr., Board of Public Works, Louisville, assisted on standard contract and specifications; designed sewers, creek channel improvement, concrete bridges, retaining walls, prepared contract plans and directed their construction. *TT 3: P 3: RC 2: D 2.* Feb. 1915 to May 1916 Computer, Miami Conservancy Dist., Dayton, Ohio, made hydraulic computations for determining channel improvement and made preliminary design for retaining walls, flood gate structures, culverts and sewerage systems for towns and cities along Miami River. *TT 1.3: P 1.3: D 1.3.* May 1916 to May 1919 First Lieut. of Infantry, National Guard on Mexican Border; Capt., Field Artillery, U. S. Army, A. E. F. May 1919 to Nov. 1920 Asst. Engr., Miami Conservancy Dist., made hydraulic computation in determining improvement and designed retaining walls, flood gate structures, culverts for channel improvement of Miami River, prepared plans for same, including computations for hydro-electric development (\$35 000 000 project). *TT 1.5: P 1.5: RC 1.5: D 1.5.* Nov. 1920 to date Designing Engr., Commrs. of Sewerage, Louisville; until Nov. 1924 assisted in preliminary investigation and in preparation of contract and specifications; had direct charge of design and plans and supervision and direction of construction work on \$2 000 000 project; since then conducting preliminary investigation, having direct charge of design and plans and supervising and directing construction of sewers, improvement of creek channels, etc., on \$5 000 000 project. *TT 4.3: P 4.3: RC 4.3: D 3.3. TT 16.9: SP 6.8: P 10.1: RC 7.8: D 8.1.* Refers to C. A. Bock, R. W. Burks, F. C. Dugan, H. P. Eddy, J. M. Johnson, J. H. Kimball, C. H. Paul.

**489 (1) CHEN, LOH-KWEN**, 170 Cuming Rd. N. Szechuen Rd., Shanghai, China. (Age 23. Born Shanghai, China.) 1922 B. S., St. John's Univ., Shanghai, China. 1924 B. S. in Ry. Civ. Eng., and 1925 M. S. C. E., Univ. of Ill. *TT 2: SP 2.* Refers to H. Cross, M. L. Enger, E. E. King, T. D. Mylrea, C. C. Williams.

**490 (15) CHOKLA, LOUIS MOSES**, 2605 Thomas Ave., Dallas, Tex. (Age 44. Born Falesti, Bessarabia, Russia.) 1913 C. E., Univ. of Tex. Sept. 1913 to May 1914 Rodman, Chainman, computation for latitude and longitude of points on traverse lines, State Levee and Drainage Board, Austin, Tex. *TT 2.7: SP 2.7.* May 1914 to Aug. 1915 Surveyman, U. S. Reclamation Service, in New Mexico; Instrumentman on construction, setting forms, etc., triangulation, and monthly estimates. *TT 1.3: SP 1.1: P 0.2.* Sept. to Dec. 1915 Engr. for A. M. Clopton, Contr., on Austin-San Antonio Post Road, highway work, estimates, etc. *TT 0.3: P 0.3: RC 0.3.* Jan. to Aug. 1916 Draftsman and Computer, Gulf, Colorado & Santa Fe R. R., Galveston, Tex. *TT 0.7: P 0.7.* Aug. 1916 to Jan. 1920 Engr. of Computations, City Engr.'s office, Dallas, Tex., assessments and estimates on street improvements, design of storm sewers, culverts, retaining walls, etc. *TT 3.3: P 3.3: RC 2: D 1.3.* Jan. 1920 to Oct. 1922 Engr. in charge of work, Flippen-Prather Realty Co., Highland Park, Dallas, Tex., street grading, sanitary and storm sewers, water mains, paving, and laying out of additions to Highland Park. *TT 2.8: P 2.8: RC 2.8.* Jan. to Oct. 1923 Engr. of Computation, City Engr.'s office, Dallas, assessments and estimates on street improvements. *TT 0.7: P 0.7: RC 0.4: D 0.3.* Oct. 1923 to date in private practice, mapping, surveying, laying out additions, and calculations and designs for other engineers and architects. *TT 1.6: P 1.6: RC 1.2: D 0.4. TT 13.4: SP 3.8: P 9.6: RC 6.7: D 2.* Refers to E. Couch, W. M. Elliot, E. L. Myers, W. J. Powell, G. G. Wickline, R. W. Willard, E. A. Wood.

**491 (6) CHRISTIAN, FRANCIS GRIFFITH**, Box 233, Oakland, Md. (Age 26. Born Ishpeming, Mich.) 1921 B. S. in Mech. Eng., and 1922 B. S. in Civ. Eng., Univ. of Mich. July to Sept. 1918 Draftsman, Computer and Rodman, Cleveland Cliffs Iron Co., Ishpeming, Mich. *TT 2: SP 2.* March to July 1922 Draftsman on shop drawings for manufacture of water turbines, James Leffel Co., Springfield, Ohio. *TT 0.3: SP 0.3.* July 1922 to March 1923 with Charles B. Hawley & Co., Inc., as Computer and Draftsman on hydro-electric developments on Youghogheny River, Maryland, 6 months at Oakland, Cal., on preliminary

work, and over 2 months at Washington, D. C., on office work in connection with preparing report. *TT 0.7: SP 0.7.* March 1923 to April 1924 with Gen. Constr. Corporation, Charles B. Hawley & Co., Agts., at Clarion, Pa., as Concrete Inspector at mixer plant and placing concrete; Engr. in charge of laboratory for testing concrete and concrete aggregates; office work in connection with distribution of these materials, all on hydro-electric construction. *TT 1.1: SP 1.1.* April 1924 to March 1925 with Charles B. Hawley & Co., Inc., Cumberland Falls, Ky., as Draftsman, Computer and Stream Gauger and general office work on preliminary investigation for hydro-electric development on Cumberland River in Kentucky. *TT 0.9: SP 0.9.* March 1925 to date with Gen. Constr. Corporation, C. B. Hawley & Co., Agts., Oakland, as Computer and Draftsman in connection with property work for development of hydro-electric plant on Youghiogheny River in Maryland. *TT 0.1: SP 0.1. TT 5.1: SP 5.1* Refers to C. B. Hawley, W. C. Hoad, H. W. King, B. S. Philbrick, H. V. Schreiber, D. C. Walser.

**492 (6) CLEMENT, RUSSELL CLARKSON**, 686 North Main St., Washington, Pa. (Age 25. Born Troy, N. Y.) April 1917 to July 1919 Master Signal Electrician, U. S. Army Signal Corps, on construction and operation of radio goniometric stations in France. *TT 2.2: SP 1.2: P 1: RC 1.* June to Sept. 1923 Rodman, Carnegie Coal Co., Pittsburgh, Pa. *TT 0.2: SP 0.2.* Sept. 1920 to June 1924 Student, Dept. of Civ. Eng., Carnegie Inst. of Technology. *TT 1.3: SP 1.3* Aug. 1924 to date Service Engr. Wallace & Tiernan Co., Newark, N. J., selling and installing chlorine control apparatus and water-works equipment. *TT 0.7: P 0.7. TT 4.4: SP 2.7: P 1.7: RC 1.* Refers to J. W. Hansen, H. S. Hutton, F. M. McCullough, C. B. Stanton, H. A. Thomas.

**493 (2) COMEY, ARTHUR COLEMAN**, Abbot Bldg., Harvard Sq., Cambridge, Mass. (Age 38. Born Somerville, Mass.) 1907 A. B., Harvard Coll. (completed 3 years of 4-year course in Landscape Architecture). Feb. to Sept. 1908 Landscape Archt. in charge of Lowell Park (200 acres), Dixon, Ill., surveyed and designed the park, laid out roads, designed cottage and minor structures. *TT 6: P 0.6: RC 0.4: D 0.2.* Oct. 1908 to June 1910 Supt. of Parks, Utica, N. Y., in charge of 550 acres; designed and supervised construction of  $\frac{1}{2}$  mile of tar macadam parkway and many minor items. *TT 1.7: P 1.7: RC 1.3: D 0.4.* June to Dec. 1910 Landscape Archt. on city planning for Milwaukee County Park Comm., made plans for large sections of suburban country, detailed layout for a subdivision. *TT 0.5: P 0.5: RC 0.2: D 0.3.* Jan. to April 1911 City Planner, City Club of St. Paul, planned central district of city, capitol and railroad station approaches. *TT 0.3: P 0.3: RC 0.1: D 0.2.* May to June 1911 City Planning Asst. to John Nolen, had personal charge planning in detail Myers Park, Charlotte, N. C. *TT 0.2: P 0.2: RC 0.1: D 0.1.* Oct. 1911 to date in private practice as Consultant on city planning, some of more important undertakings being: city or town plans for Wakefield and Dover, N. J.; Detroit, suburban planning report; Cambridge, general, traffic, rapid transit; Lawrence, Mass.; Fitchburg, thoroughfares, housing code; Woonsocket, R. I.; Philadelphia Main Line (in association with F. L. Olmsted); zoning schemes for Brockton, Cambridge, Belmont, Woburn, Lowell, Mass., Milwaukee, Special Consultant at Detroit, numerous subdivisions and housing developments; from Feb. to Oct. 1912 City Planner to Houston Park Comm., prepared tentative comprehensive city plan and detailed plans for certain improvements; from 1913-1919 City Planning Member, Massachusetts Homestead Comm., in 1917 laid out state housing tract at Lowell, collaborated on house designs and supervised outside construction (1 year); from Jan. 1918 to May 1919 Town Planner in Council of National Defense and then U. S. Housing Corporation at Washington, D. C., made housing shortage surveys; laid out three war housing projects in Washington and had general supervision over nine others in Eastern United States; Sept. 1922 to June 1924 (about  $\frac{2}{3}$  of time, total  $1\frac{1}{2}$  years) Zoning Director, City of Boston, Planning Board, in responsible charge of comprehensive zoning plan, prepared statute and drew the zoning map. *TT 12.4: SP 0.5: P 11.9: RC 5.4: D 4.5. TT 15.7: SP 0.5: P 15.2: RC 7.5: D 5.7.* Refers to C. B. Ball, H. Bartholomew, F. H. Fay, E. A. Fisher, E. P. Goodrich, M. Knowles.

**494 (3) COMPTON, HORACE BERNARD**, 207 Lincoln St., Scotia, N. Y. (Age 31. Born Scotia, N. Y.) 1918 C. E., Renss. Pol. Inst. March to June 1919 Transitman, Central R. R. of New Jersey, computations on Federal valuation work. *TT 2.2: D 0.2.* June 1919 to Feb. 1920 with Gen. Elec. Co., Schenectady, N. Y., as Draftsman, building work, surveying, building and track layouts. *TT 0.7: D 0.7.* Feb. 1920 to Jan. 1921 Estimator and designing, factory buildings, The Austin Co., Cleveland, Ohio. *TT 0.8: D 0.8.* Jan. to June 1921 Asst. Purchasing Agt. for building materials, The Lundoft-Bicknell Co., Cleveland. *TT 0.4: D 0.4.* Sept. 1921 to June 1924 Instructor in, and Sept. 1924 to date Asst. Prof. of, Civ. Eng., Dept. of Mechanics, Rensselaer Polytechnic Inst. Since March 1924 also



Village Engr., Village of Scotia, N. Y., in charge of engineering work, paving, sewers, etc. June to Sept. 1922 Estimator and designing, factory buildings, The Austin Co. June to Sept. 1923 Inspector, new buildings, Gen. Elec. Co. *TT 3.5: RC 1.3: D 0.5: TT 7.7: RC 1.3: 2.7.* Refers to E. R. Cary, L. W. Clark, T. R. Lawson, P. C. Ricketts, W. W. Rousseau.

**495 (14) COOPER, CALVIN MACY**, 508 North Leonard, Girard, Kans. (Age 42. Born near Columbus, Kans.) Completed most of Civ. Eng. course, International Correspondence Schools of Scranton, Pa. Aug. 1912 to Aug. 1921 City Engr., Columbus, Kans., in charge of design, construction and maintenance of paving, sewers and water-works. Jan. 1913 to July 1917 also Cons. Engr., City of Baxter Springs, Kans., in charge of design and construction of streets, sidewalks and bridges, and city surveying. Jan. 1915 to Jan. 1919 also County Surveyor, Cherokee County, Kans., on land surveys, drainage, platting town sites and mine surveys. Since April 1917 also County Engr., Cherokee County (April 1917 to May 1921) and Crawford County, Kans. (Aug. 1921 to date) in charge of design, construction of maintenance of roads, bridges and paving and preparation of Federal Aid road plans. *TT 12.7: P 12.7: RC 12.7.* Refers to E. Boyce, L. E. Curfman, A. A. Laird, C. R. Mandigo, H. A. Rowland, A. J. Smith, L. B. Smith, L. R. Tillotson.

**496 (11) CORTELYOU, HERMAN POLHEMUS**, 1755 West 39th St., Los Angeles, Cal. (Age 37. Born Ewing, Nebr.) 1909 B. S. in Civ. Eng., Univ. of Cal. June to Aug. 1909 Instrumentman on surveys, and Oct. to Nov. 1910 Inspector, acting as Res. Engr. on force-account construction, Los Angeles County Highway Comm. *TT 2.5: SP 2: P 0.5: RC 0.2.* Sept. 1909 to Sept. 1910 Res. Engr., canal location, concrete lining, diversion wier construction, Burbank (Wash.) Power & Water Co. *TT 1: P 1: RC 1.* March 1911 to date in City Engr.'s Office, Los Angeles, as Draftsman on maps (1 year), Asst. Engr. on street and sewer construction (11½ years), Inspector of Public Works in charge of all construction in Los Angeles City (1 year) and Engr. of Constr. in charge of bridge and storm drain construction (9 months) (amount \$10 000 000). *TT 14: P 14: RC 10.7. TT 17.5: SP 2: P 15.5: RC 11.9.* Refers to M. Butler, W. E. Jessup, T. A. Jordan, W. W. Patch, C. J. Shults, R. W. Stewart, H. A. Van Norman.

**497 (5) COTTON, EDWIN ROWLAND**, 3242 Thirty-eighth St., N. W., Washington, D. C. (Age 21. Born Washington, D. C.) 1925 C. E., Rens. Pol. Inst. *TT 2: SP 2.* Refers to E. R. Cary, L. W. Clark, T. R. Lawson, P. C. Ricketts, W. W. Rousseau.

**498 (12) CRAWFORD, HUGH LINDESAY**, 254 S. Oakley Ave., Burley, Idaho. (Age 42. Born Center, Iowa.) Licensed Civ. Engr., State of Idaho. 1911 B. S. in Civ. Eng., Wash. State Coll. May to Aug. 1906 and May to Sept. 1910 Rodman, U. S. Reclamation Service. *TT 2.2: SP 2.2.* June 1911 to date with U. S. Reclamation Service as follows: June 1911 to April 1912 Rodman, Instrumentman at Sunnyside, Wash.; Constr. Rodman, Instrumentman, timekeeping, keeping field costs, Chf. of Party on canal and lateral construction; April 1912 to April 1917 Surveyman, at Burley, Idaho; Computer on water records and earthwork, Chf. of Party on canal and lateral location and construction, Hydrographer for South Side Pumping Div. of Minidoka Project 1914 to 1917; May to Sept. 1917 Jun. Engr. at Huntley, Mont., in charge of water-supply investigation for Huntley Project; Sept. 1917 to June 1918 Jun. and Asst. Engr. at Burley, in charge of construction of irrigation laterals, reinforced concrete and wooden canal structures; construction of potato storage cellars; since June 1918 Asst. Engr. at Burley, in charge of maintenance engineering, hydrometry, land surveys, location surveys for 57 miles of high-voltage electric transmission line; drainage investigations, some office engineering; Asst. and at times Acting Watermaster on 49 000-acre division of project; supervised design and installation of bridges and reinforced concrete and metal siphons, placed over and in canals of Minidoka Project (over 300 structures). *TT 14: SP 2.5: P 11.5: RC 7.2: D 0.7. TT 16.2: SP 4.5: P 11.5: RC 7.2: D 0.7.* Refers to F. A. Banks, A. B. Brown, E. B. Darlington, B. Dibble, R. H. Fifield, J. S. Longwell, T. I. Phelps.

**499 (12) CRAWFORD, PERRY ORSON**, California Oregon Power Co., Medford, Ore. (Age 39. Born Malvern, Ohio.) 1908 A. B. in E. E., Stanford Univ. June 1908 to Dec. 1911 Constr. Engr., Northern California Power Co., in charge of construction and design of South, Inskip and Coleman power houses. *TT 5.5: SP 2: P 3.5: RC 2.5: D 1.* Jan. 1912 to Jan. 1915 Asst. Chf. Engr. on design and construction of hydro-electric plant (40 miles transmission, 40 000 volts, 1 500-kw.) for Amir of Afghanistan, Jabl-us-Siraj Hydro-electric Scheme, Kabul, Afghanistan. *TT 3: P 3: RC 3: D 0.5.* Sept. 1915 to Feb. 1916 advanced

work in high-voltage research, Stanford Univ. *TT 0.5: P 0.5.* March 1916 to date with California-Oregon Power Co. as follows: March 1916 to Feb. 1918 Engr. in charge of construction of Copco No. 1 hydro-electric plant (first unit consisted of gravity dam 110 ft. high, 2 short penstocks 10 ft. in diameter, connected to 18 600-h.p. horizontal turbines driving 12 500-kva. generator); Feb. 1918 to Dec. 1919 Engr., operation and construction, during construction of 30 miles of 66-kv. line to interconnect with Pacific Gas & Elec. Co., at Kennett, Cal.; Jan. 1920 to Dec. 1922 Chf. Engr., during construction of reinforced concrete Link River Dam (435 ft. long, 20 ft. high), 12 500-kw. addition to Copco No. 1 plant raising of Copco No. 1 dam 15 ft., construction of 123 miles of 110-kv. transmission line between Prospect and Springfield, Ore.; since Jan. 1923 Vice-Pres. and Chf. Engr., constructed Klamath Falls East Side Plant (4 250 h.p.) and 77½ miles of 110-kv. transmission line between Copco and Delta, Cal., at which point it ties with the Pacific Gas & Elec. Co.; Copco No. 2 plant under construction (capacity 40 000 h.p.) *TT 9.2: P 9.2: RC 9.2: D 0.5. TT 18.2: SP 2: P 16.2: RC 14.7: D 2.* Refers to N. A. Bowers, D. C. Henny, A. H. Markwart, C. D. Marx, T. H. Means, W. Meredith, I. C. Steele, C. B. Wing.

**500 (7) CROSS, EDGAR ALGERNON,** 725 May Ave., Windsor, Ont., Canada. (Age 36. Born Petersfield, Hants, England.) 1909 B. Sc. in Eng., Birmingham Univ., England. Jan. 1910 to July 1915 Asst. Engr., Birmingham Canal Navigations, England, surveys, designs, estimates, specifications, supervision in connection with canal works damaged by mining subsidence. *TT 7.7: RC 2: D 2.* Aug. 1915 to March 1917 with Special Brigade, Royal Engrs., British Army, France. *TT 1.8.* March 1917 to Jan. 1919 Research Engr., Royal Arsenal, Woolwich, England, original work on electrolytic iron and Armour piercing projectiles. *TT 1.9: RC 1.9.* Jan. 1919 to March 1920 Chf. Asst. Engr., Birmingham Canal Navigations, design and reconstruction of bridges, locks, aqueducts, reservoirs and other canal works wrecked by mining operations; design and construction of gravity railway to convey materials to canal. *TT 1.3: RC 1.3: D 0.9.* March to May 1920 Reinforced Concrete Designer, H. O. Best Co., New York City. *TT 0.2: D 0.2.* May 1920 to June 1922 Supt. of Constr. for W. L. Stoddart, New York, on reinforced concrete factory, Mica Insulator Co., Schenectady, N. Y.; Hotel Sheraton, High Point, N. C. (10 stories, reinforced concrete); Hotel Lycoming, Williamsport, Pa. (10 stories, steel) (total value of works \$2 000 000). *TT 2.1: RC 2.1.* June 1922 to date Structural Engr. for Albert Kahn, Detroit, Mich., on design of reinforced concrete and steel structures, office buildings, industrial plants, banks, hotels and miscellaneous buildings. *TT 3: RC 2: D 2.6. TT 18: RC 9.3: D 5.7.* Refers to R. C. R. Gautier, J. T. N. Hoyt, M. C. Krause, D. A. Mollitor, H. A. Reid, R. E. Stradling, A. E. Wynn.

**501 (11) DAVENPORT, GEORGE LYMAN, Jr.,** 1430 West 52d St., Los Angeles, Cal. (Age 39. Born San Diego, Cal.) 1906 S. B., Mass. Inst. Tech. July 1906 to July 1907 Asst. on Eng. Corps, Pennsylvania Lines West of Pittsburgh, office and field work. *TT 3: SP 3.* July 1907 to Oct. 1912 with Atchison, Topeka & Santa Fe Ry., until Jan. 1910 as Draftsman at San Bernardino, Cal., Prin. Office Asst. to Div. Engr., handling estimates and design on maintenance work, some field work; then Asst. to Engr., Grand Div., Los Angeles, Cal., field and office work, design of bridges, track structures and hydraulic works. *TT 5.2: SP 1.3: P 3.9: D 1.* Oct. 1912 to July 1915 Asst. Engr., Board of Public Utilities, City of Los Angeles, had charge of track valuation of St. Ry. System, rapid transit design and street railway regulation, field and office. *TT 2.8: P 2.8: RC 0.5: D 1.* July 1915 to date Asst. Engr., A., T. & S. F. Ry., Los Angeles, until March 1921 as Prin. Asst. to Asst. Chf. Engr., on hydraulic design and field construction, design of special railroad structures; since then in charge of water service, reporting directly to Chf. Engr., design, construction and maintenance of pumping plants, sewage disposal, steam heating systems, refrigerating plants and other railroad units. *TT 9.7: P 9.7: RC 6: D 9. TT 20.7: SP 4.3: P 16.4: RC 6.5: D 11.* Refers to R. J. Arey, C. F. W. Felt, H. L. Haehl, G. W. Harris, H. C. Phillips, A. F. Robinson, C. A. Smith.

**502 (1) DAVIS, CALVIN VICTOR,** 115 Primrose Ave., Mt. Vernon, N. Y. (Age 28. Born Camden, N. J.) 1922 B. S. in Eng., Drexel Inst., Philadelphia, Pa. Aug. 1917 to Sept. 1918 Draftsman, Birkinbine Eng. Co., Philadelphia, detailing reinforced concrete, Stevenson (Conn.) Hydro-Electric Development. *TT 3.1: SP 3.1.* Sept. 1918 to June 1922 student in Civ. Eng., Drexel Inst. June to Sept. 1919 Ship Fitter's Helper and installing deck machinery, Hog Island Shipyard, Philadelphia. Jan. to April 1920 Template Maker, American Bridge Co., Pencoyd, Pa. June to Sept. 1920 Bolter-up, McClintic Marshall Co., Pottstown, Pa., fabrication of structural steel. Jan. to April 1921 Laboratory Asst., I. P. Morris Co., Philadelphia, testing model hydraulic turbines. June 1922 to March 1923

Sales Engr. for L. N. Lukens, Philadelphia, selling bars for concrete reinforcement, design of concrete structures. *TT 0.8: P 0.8: RC 0.8: D 0.8*. March 1923 to date Designing Engr., Ambursen Constr. Co., Inc., New York City, design of dams, hydro-electric plants and miscellaneous hydraulic structures, preliminary cost estimates for hydro-electric projects. *TT 2.1: P 2.1: RC 2.1: D 2.1. TT 6: SP 3.1: P 2.9: RC 2.9: D 2.9*. Refers to E. H. Burroughs, Jr., W. Easby, Jr., M. D. Kolyn, L. A. Robb, W. F. Steffens, S. W. Stewart, E. Sudler.

**503 (9) DAY, ALLEN ZUMVORDE**, New Richmond, Ohio. (Age 28. Born New Richmond, Ohio.) 1924 C. E., Univ. of Cincinnati. *TT 2: SP 2*. Refers to E. D. Gilman, C. I. Grimm, H. B. Luther, R. M. Miller, L. H. Prell.

**504 (1) DeBEAU, EDWIN BRIGHT**, 15 Thorne Ave., Hempstead, N. Y. (Age 32. Born Hempstead, N. Y.) Student, Hefly Inst., Brooklyn, N. Y. (1911), and Brooklyn Polytechnic Inst. (1919-1920). 1914 to 1919 took Civ. Eng. course, American School of Correspondence, Chicago, Ill. June 1913 to June 1916 Chairman, Transitman and Gen. Asst. for Thos. V. Smith, C. E., Hempstead, N. Y., surveying and village engineering. *TT 3: SP 2: P 1: RC 1*. June 1916 to Jan. 1917 Asst. Engr. for Morrell Vrooman, Cons. Engr., Gloversville, N. Y., on sewer construction and inspection. *TT 0.6: P 0.6: RC 0.2*. Jan. to Aug. 1917 Rodman, Member of Field Party No. 8, Interstate Commerce Comm., railroad valuation. *TT 0.7: P 0.7*. Aug. to Dec. 1917 Asst. Engr. for Carl H. Watson, Great Neck, N. Y., in charge of construction of roads and water-supply system, at aviation fields, U. S. Signal Corps near Mineola, N. Y. *TT 0.4: P 0.4: RC 0.4*. Dec. 1917 to May 1919 with 48th Co., 20th Engrs., U. S. Army. *TT 1.4: SP 1.4*. May 1919 to July 1920 Asst. Engr. with Walter E. Sexton, Mineola, on land surveys, sewers, roads and general village engineering. *TT 1.2: P 1.2: RC 1.2: D 1.2*. July 1920 to Nov. 1921 Asst. Engr., Pitometer Co., New York City, on water-waste surveys in Minneapolis, Minn., Detroit, Mich., Boston and Stoneham, Mass., and Yonkers, N. Y. *TT 1.3: P 1.3: RC 1.3: D 1.3*. Nov. 1921 to July 1922 in private practice as Civ. Engr. and Surveyor, at Hempstead and Freeport, N. Y. *TT 0.7: P 0.7: RC 0.7: D 0.7*. July 1922 to date Gen. Asst. Engr. for Sidney B. Bowne, C. E., Mineola, in charge of all land surveying and village engineering, water supply systems, sewers and roads. *TT 2.7: P 2.7: RC 2.7: D 2.7. TT 11.8: SP 3.4: P 8.4: RC 6.3: D 5.8*. Refers to F. G. Bennett, J. E. Beswick, S. B. Bowne, E. S. Cole, J. E. O'Leary, M. Vrooman.

**505 (10) DEMERITT, WILLIAM WELLESLEY**, Key West, Fla. (Age 45. Born Key West, Fla.) Received Chf. Engr.'s license, ocean, steam vessels and vessels propelled by gas, fluid, naphtha, or electric motors. Aug. 1900 to date Eng. and Administrative Officer in U. S. Light House Service as follows: Aug. 1900 to Nov. 1905 Asst. Engr., Strs. *Laurel* and *Mangrove*, assisted in maintenance, adjustment and operation of machinery; Nov. 1905 to Nov. 1907 and Sept. 1910-June 1911 Engr., Str. *Mangrove*, Aug. 1908 to Sept. 1910 Engr., Str. *Hibiscus*, in charge of Eng. Dept. and all machinery; Nov. 1907 to Aug. 1908 Inspector of machinery, assisted in inspecting and supervising construction of hulls and machinery for eight lighthouse tenders and machinery for four lightships at plant of New York Shipbuilding Co., Camden, N. J.; July 1911 to Aug. 1913 Supt., Seventh Lighthouse Dist. (Hillsboro Inlet to Suwannee River, Fla.), at Key West, Fla., in immediate charge of Dist. Eng. force, responsible for designing and supervising construction and repairs of all lighthouses, towers, dwellings, wharves, also vessels and their machinery in the district; Aug. 1913 to June 1918 Inspector, and since June 1918 Supt. of Lighthouses (title changed by Act of Congress from former to latter), in charge of same district; in responsible charge of supervision and direction of engineering and administrative work, including design, plans and construction of lighthouses, wharves, storehouses, dwellings and appurtenant structures; also installation and repairs of vessels, and all District affairs (expenditure for last fiscal year over \$260 000). *TT 2.4.8: RC 16.6: D 7*. Refers to H. B. Bowerman, J. S. Conway, F. C. Hingsburg, F. A. Muth, G. R. Putnam, H. W. Rhodes.

**506 (11) DeMOTT, ARTHUR EDWARD**, 406 N. Vista Bonita Ave., Glendora, Cal. (Age 32. Born New Haven, Minn.) June to Sept. 1911 Rodman and Chairman, Los Angeles Board of Education. *TT 0.3: SP 0.3*. Dec. 1912 to June 1913 Draftsman and Computer, Dominguez Land & Water Co., at Torrance, Cal. (4 months), and North Whittier Extension Co., at Puente, Cal. (2 months), on subdivision work. *TT 0.5: SP 0.5*. July to Sept. 1913 Transitman and Chf. of Party on subdivision work for various engineers, Los Angeles, Cal. *TT 0.2: SP 0.2*. Oct. 1913 to April 1922 Office and Field Engr. on design and construction on irrigation, sewage-disposal, railway, highway and subdivision projects for J. Fred Duling, Cons. Engr., Los Angeles. *TT 6.5: SP 6.5*. May to Dec. 1922 Asst. Res. Engr., Rancho Santa Fe, Del Mar, Cal., in charge of subdivision work and road location on 9 000 acres of

land of Santa Fe Land & Improvement Co. *TT 0.7: P 0.7: RC 0.7.* Jan. 1923 to date City Engr., Glendora, Cal., on paving, concrete work, bridges, etc.; also in private practice, including irrigation layout, reservoirs, private road location and paving, and subdivision. Since May 1924 also City Engr., Covina, Cal., on construction of all kinds (approx. \$250 000) covering paving, sewer layout, water development and general municipal work. *TT 2.5: P 2.5: RC 2.5. TT 10.7: SP 7.5: P 3.2: RC 3.2.* Refers to G. Cromwell, H. W. Hincks, J. B. Lippincott, C. H. Richards, E. A. Rowe, K. Q. Volk.

**507 (10) DICKINSON, JOSEPH HAINES**, Winter Park, Fla. (Age 58. Born Lapps, Pa.) 1890 C. E., Cornell Univ. July 1890 to May 1891 with Hoge & White, City Engrs., Wheeling, W. Va., made cement tests, ran grades for sewers, surveying, including laying out of a subdivision; also ran levels in coal mine for drainage. *TT 2.8: SP 2.8.* May 1891 to March 1892 ill. March 1892 to Feb. 1895 with Trenton (N. J.) Iron Co., on development of steam logging methods, especially log-handling schemes. *TT 3: P 3.* Feb. 1895 to date with Lidgerwood Mfg. Co., New York, developing logging-by-steam devices, until Sept. 1896 at New York office; from Sept. 1896 to April 1899 in charge of New Orleans office; April 1899 to April 1903 Southern Engr. and Mgr. of southern business, at Atlanta, Ga.; April 1903 to March 1906 at New York office handling logging machinery business, and since March 1906 Mgr. of Logging Machinery Dept. of Company; has been granted about 50 U. S. patents on mechanical methods of logging. At present also Pres., United Steel Block Corporation (a closely allied interest). *TT 30: P 30: RC 28.6, TT 35.8: SP 2.8: P 33: RC 28.6.* Refers to J. H. Edwards, C. R. Harding, A. Marston, S. Miller, F. E. Turneare, H. C. Turner, J. E. Wadsworth.

**508 (7) DICKINSON, THORN**, Bismarck, N. Dak. (Age 36. Born Wallingford, Conn.) 1911 B. A., Williams Coll. 1914 B. S., Mass. Inst. Tech. 1905 to 1907 Lavelman, U. S. Dept. of Agriculture, on drainage survey of Red River Valley, N. Dak. *TT 2.5: SP 2.5.* Summers 1907 to 1911 (while student at Williams Coll.) Instrumentman and Draftsman, State Engr.'s Office, Bismarck, N. Dak. *TT 0.7: SP 0.7.* 1911 to 1916 (except 1912 to 1914 student, Civ. Eng. course, Massachusetts Inst. of Technology) Asst. Engr. with T. R. Atkinson, Bismarck, on drainage, irrigation and municipal work (1½ years) and on location and supervision of construction of roads, and design and supervision of construction of water-works system, New Rockford, N. Dak. (2 years). *TT 3.2: P 3.2: RC 1.5: D 0.5.* 1916 to 1917 Asst., Turner Constr. Co., Waterbury, Conn., on concrete building construction (6 months), and Draftsman, Valuation Committee, Chesapeake & Ohio Ry. Co. (6 months). *TT 1: SP 1.* 1917 to 1919 with U. S. Army, as 2d Lieut. and 1st Lieut., Engrs., R. C., Officer in Chg., Engr. Supply Depot, Camp Greene, and Engr. Liaison Officer and Adjutant, Army Reserve Depot, Schenectady, N. Y.; laid out and supervised pavement and sewer construction, Camp Greene. *TT 0.5: P 0.5: RC 0.5: D 0.2.* 1919 to 1921 Asst. Engr. with T. R. Atkinson, on design of municipal improvements for small cities and valuation of utilities; Expert Witness in rate case. *TT 2.2: P 2.2: RC 2: D 1.* 1921 to 1923 in private practice as Civ. Engr., during period of ill health part of time constructing sewer system, light plant, and minor buildings (\$75,000), including design and supervision for Calhoun (Ala.) Colored School. *TT 1: P 1: RC 1: D 0.5.* 1923 to date Asst. Engr. with T. R. Atkinson, on design of water-works, including filtration plant, Bismarck (\$650 000), supervision of construction, design of Federal Aid highways (earth, gravel and concrete, 40 miles), municipal work. *TT 2: P 2: RC 2: D 1. TT 13.2: SP 4.2: P 9: RC 7: D 3.2.* Refers to F. L. Anders, T. R. Atkinson, W. G. Black, E. F. Chandler, E. R. Griffin, C. M. Spofford, L. P. Wolff.

**509 (10) DIETZER, HERBERT CLENDENNING**, Jackson, Miss. (Age 37. Born Buffalo, N. Y.) Jan. to June 1906 Chairman and Rodman on construction, New York State Steel Co., at Buffalo, N. Y. *TT 0.4: SP 0.4.* June 1906 to Nov. 1907 Timekeeper, Instrumentman and Straw Boss, Woodruff Constr. Co., at San Francisco, Cal., on construction of reinforced concrete buildings; finally Asst. to Supt. of Constr. *TT 1.4: SP 1.4.* Nov. 1907 to Feb. 1908 Instrumentman on land subdivision for D. R. Markle, San Francisco. *TT 0.3: SP 0.3.* Feb. to Oct. 1908 Instrumentman on location and patent surveys for mining claims at Rawhide, Nev. *TT 0.7: SP 0.7.* Nov. 1908 to May 1909 Instrumentman at Argo, Ill., during construction of corn products plant. *TT 0.5: SP 0.5.* May to Sept. 1909 Rodman and Instrumentman on railroad surveys in Washington and Idaho. *TT 0.3: SP 0.3.* Sept. 1909 to Nov. 1910 Instrumentman on construction of Holter Dam, Wolf Creek, Mont. *TT 1.2: SP 1.2.* Aug. 1913 to June 1916 Res. Engr. in charge of road construction, laying out and construction roads and pavement, and June 1916 to July 1920 making surveys, preparing standards for drainage structures, pavements, compiling specifications and in general in charge of construction activities of State Highway Dept. of Mississippi. *TT 6.9: P 6.9: RC 6.9: D 4.1.* July



1920 to date State Highway Engr. of Mississippi. *TT 4.8: P 4.8: RC 4.8: D 4.8. TT 16.5: SP 4.8: P 11.7: RC 11.7: D 8.9.* Refers to H. K. Bishop, M. L. Culley, J. M. Harbert, E. W. James, W. S. Keller, C. M. Kerr, W. R. Neel.

**510 (1) DOBBS, ABRAHAM HARRY**, 86 Jefferson St., Perth Amboy, N. J. (Age 22. Born New York City.) 1925 B. S. in C. E., Univ. of Mich. *TT 2: SP 2.* Refers to J. H. Cissel, L. M. Gram, W. C. Hoad, H. W. King, F. N. Menefee, R. H. Sherlock, R. S. Swinton.

**511 (1) DONNELSON, SAMUEL RUCKSTON**, 49 Willow Ave., Larchmont, N. Y. (Age 40. Born Brooklyn, N. Y.) 1925 B. S., Cooper Union. 1905 to 1906 Chainman, Chicago, Milwaukee & St. Paul R. R. *TT 0.5: SP 0.5.* 1906 to 1907 Transitman, Masonry Inspector, Chicago Junction R. R., track elevation in Chicago. *TT 1.5: SP 1.5.* 1907 to 1910 Transitman in charge of party, Indiana Steel Co., construction of steel plant and City of Gary, Ind. *TT 2.5: SP 2.5.* 1910 to 1911 Engr. with George W. Jackson, Inc., on construction of Washington St. Tunnel, Chicago. *TT 1.5: P 1.5: D 1.5.* 1911 to 1913 Engr., Peoples Gas Co., on construction of tunnels and gas plants. *TT 2: P 2: RC 1: D 1.* 1913 to date Engr. of Constr. and Design, The Linde Air Products Co., The Prest-O-Lite Co., Inc., Carbide & Carbon Chemicals Corporation, construction of chemical plants. *TT 12: P 12: RC 7: D 5. TT 20: SP 4.5: P 15.5: RC 8: D 7.5.* Refers to H. W. Baum, J. W. Cowper, S. E. Fairchild, Jr., L. C. Hammond, H. L. Noyes.

**512 (3) DUFF, RUSSELL MILES**, 11 Hooker Ave., Poughkeepsie, N. Y. (Age 24. Born Canton, Ohio.) 1921 B. S. in C. E., Ohio Northern Univ. 1924 C. E., Cornell Univ. May 1922 to Sept. 1923 Supt. of Maintenance, Div. of Highways, Ohio, supervised maintenance of State roads in a county (under general supervision of Asst. Div. Engr.). *TT 3.4: SP 3.4.* Aug. 1924 to date Jun. Asst. Engr., Central Hudson Gas & Elec. Co., on structural and hydraulic reports and designs. *TT 0.7: SP 0.7. TT 4.1: SP 4.1.* Refers to F. A. Barnes, O. H. Bundy, J. E. Perry, F. J. Seery, E. A. Van Deusen, C. L. Walker.

**513 (8) DUNHAM, HARRY LEROY**, 53 West Jackson Blvd., Chicago, Ill. (Age 32. Born Ottawa, Kans.) Nov. 1911 to Sept. 1914 Rodman to Asst. City Engr., Atchison, Kans. *TT 2.8: SP 2.8.* Sept. 1914 to May 1917 student, Highway Eng., Kansas State Agricultural Coll.; also with State Highway Engr. and Drainage Engr., surveying, drafting, tracing and other minor office work; vacations in City Office at Atchison, Kans., and Inspector of concrete road construction in Atchison County, Kans. *TT 1: SP 1.* May 1917 to Dec. 1918 at Reserve Officers' Training Camp, Ft. Riley, Kans., and Officer in charge of roads and drainage at Camp Funston, Kans., maintenance and repair of about 30 miles paved road and drainage system for camp; and Dec. 1918 to Aug. 1919 Asst. Utilities Officer general supervision of M. & R. and operation of utilities, Fitzsimmons General Hospital, Denver, Colo. *TT 2.2: SP 0.2: P 2: RC 2.* May 1921 to Jan. 1922 Field and Office Engr. in office of City Engr., Colorado Springs, Colo., drafting, planning, estimating and computations on large paving project. *TT 0.7: SP 0.7.* Feb. to March 1922 inspection, 16th St. Viaduct, Denver, for J. M. Means. *TT 0.2: SP 0.2.* April to Nov. 1922 drafting, surveying and inspection on road work, Colorado State Highway. *TT 0.6: SP 0.6.* April 1923 to May 1925 Civ. Engr. and Office Mgr. for S. R. DeBoer, Landscape Archt. and City Planner, at Denver, in charge of engineering, drafting and business office and built small storm sewer, sanitary sewer and concrete and gravel roads; responsible for design and construction; on subdivision work, park and cemetery planning, city planning and institutional development; also general business practice. At present Engr., Celite Products Co., Chicago, Ill. *TT 2: SP 0.5: P 1.5: RC 1.5. TT 9.5: SP 6: P 3.5: RC 3.5.* Refers to F. S. Altman, W. L. Benham, L. E. Bishop, L. E. Conrad, W. S. Gearhart, G. W. Hutchinson, J. S. Means, H. B. Walker.

**514 (9) EBERHARDT, WALTER RUDOLPH**, 9328 Amesbury Ave., Cleveland, Ohio. (Age 33. Born Cleveland, Ohio.) 1913 to 1917 Draftsman, T. H. Brooks Co., Cleveland, Ohio. *TT 4: SP 4.* 1917 to 1918 Draftsman, Cleveland Elec. Illuminating Co. *TT 1: SP 1.* 1918 to 1919 Draftsman and Checker, Wellman-Seaver-Morgan Co., Cleveland. *TT 0.5: P 0.5: D 0.5.* 1919 to 1920 Draftsman and Designer, Osborn Eng. Co., Cleveland. *TT 0.5: P 0.5: D 0.5.* 1920 to date Designer, H. K. Ferguson Co., Cleveland. *TT 5.5: P 5.5: D 5.5. TT 11.5: SP 5: P 6.5: D 6.5.* Refers to G. V. Clow, E. M. Haas, H. S. Jacoby, W. E. Rudolph, R. E. J. Summers, F. J. Van Hook.

**515 (1) EICHLER, PHILIP HENRY, Jr.**, 31 McArthur Pl., Middle Village, N. Y. (Age 26. Born New York City.) 1923 B. S. in C. E., Tri-State Coll. Jan. to April 1924 Eng. Asst., New York Telephone Co., New York City, plotting and analyzing curves in connection with budget. *TT 2.3: SP 2.3.* April 1924 to date Transitman and Computer, field and office work

on city maps, with Borough President, Queens Topographical Bureau, Long Island City. *TT 1.1: SP 1.1. TT 3.4: SP 3.4.* Refers to C. G. Chamberlin, H. K. Endemann, L. B. Manheimer, C. U. Powell, L. M. Schoonmaker.

**516 (10) EPPERSON, ERLE RUSSELL**, Box 779, Jackson, Miss. (Age 38. Born Cleburne, Tex.) 1907 B. S. Centre Coll., Danville, Ky. June 1907 to Dec. 1911 Recorder, Inspector and Instrumentman with U. S. Engr. Office, Nashville, Tenn., Louisville Sewer Comm., and J. E. Bell Lumber Co. *TT 3.5.* 1912 to 1914 Asst. Engr., Board of Public Works, Louisville, Ky., in charge of sidewalk construction, involving supervision of inspectors and contract work and final estimates; also considerable work on streets and sewers. *TT 3: RC 3.* 1915 to 1916 Inspector, U. S. Engr. Office, Cincinnati, field and office. *TT 1.5.* 1917 Res. Engr. and Draftsman, American Rolling Mills, Middletown, Ohio, on map and track work, and 4 months at Zanesville Branch as Res. Engr. in charge of erecting two concrete filter tanks, embracing location, supervision of construction, estimates of work done, etc. *TT 1: RC 0.3.* 1918 (7 months) with U. S. Army, at Camp Humphreys; commissioned 1st Lieut., Engr. Sec. Oct. 1919 to Feb. 1922 and March 1923 to date with U. S. Bureau of Public Roads, until Feb. 1922 as Res. Engr. in charge of highway construction (12 miles) in National Forest, near Bristol, Tenn., including supervision of work of contractor and four subcontractors, also separation of estimates; considerable cement and dry rubble retaining walls were erected; also an 80-ft. low military truss and smaller structures; since March 1923 Associate Highway Engr., Dist. 8; work includes field inspections and reports on projects prior to and during construction and after completion; also maintenance inspections; plans frequently examined on site and reports and recommendations of approval or modification made; work is also examined and written recommendations made to Dist. Engr. *TT 4.4: RC 4.4. TT 13.4: RC 7.7.* Refers to J. M. Angle, R. W. Burks, J. S. Clay, S. F. Crecelius, A. R. Losh, H. C. Wells.

**517 (9) EVERS, WILLIAM HENRY, Jr.**, 1048 Engineers Bldg., Cleveland, Ohio. (Age 22. Born Cleveland, Ohio.) Oct. 1922 to Oct. 1924 Engr., The Wm. H. Evers Eng. Co., Cleveland, Ohio, in charge of subdividing property, etc. *TT 2: SP 1.2: P 0.8: RC 0.8.* Oct. 1924 to date Engr. in Chg., The R. C. Products Co., Cleveland, in complete charge of designing concrete crib walls, concrete floors, culverts, etc. *TT 0.7: P 0.7: RC 0.7: D 0.7. TT 2.7: SP 1.2: P 1.5: RC 1.5: D 0.7.* Refers to W. H. Evers, R. Hoffmann, F. A. Pease, W. E. Pease, C. W. Root.

**518 (13) FEE, DANIEL JEROME**, 2616 Buchanan St., San Francisco, Cal. (Age 34. Born St. Paul, Minn.) 1914 B. S., Civ. Eng. Dept., Univ. of Cal. Jan. to June 1915 Rodman, and June 1915 to Aug. 1916 Draftsman, Northwestern Pacific R. R. *TT 3.5: SP 3.5.* Aug. 1916 to Jan. 1917 Levelman and in charge of planetable party, and Jan. to June 1917 Draftsman, with Hunter & Hudson, San Francisco, Cal. *TT 1: SP 1.* Sept. 1917 to Sept. 1918 Asst. to H. L. Haehl, San Francisco, on irrigation design and surveys. *TT 1.2: P 1.2.* Sept. 1918 to Feb. 1919 with Engr. Corps, U. S. Army. Aug. to Dec. 1919 Transitman and in charge of planetable party, California State Eng. Dept., also in charge of office mapping of canal line survey and damsite topography. *TT 0.5: P 0.5.* March 1920 to Jan. 1921 Draftsman with Galloway & Markwart, irrigation mapping and in charge of field party. *TT 0.7: P 0.7.* Jan. 1921 to date Asst. Engr., Pacific Gas & Elec. Co., San Francisco, in charge of field party on location of construction railroads and hydro-electric surveys. *TT 4: P 4: RC 3. TT 10.9: SP 4.5: P 6.4: RC 3.* Refers to J. D. Galloway, G. C. Green, H. L. Haehl, T. B. Hunter, A. H. Markwart, R. A. Monroe, I. C. Steele.

**519 (1) FINCK, HERBERT FERDINAND**, 1110 Park Ave., Hoboken, N. J. (Age 29. Born Weehawken, N. J.) Licensed Prof. Engr. and Land Surveyor, State of New York, and Prof. R. R. Engr. and Land Surveyor, State of New Jersey. 1922 B. S. in C. E., Cooper Union Night School. Feb. to Dec. 1917 Draftsman and Rodman with Hill & Ferguson, Cons. Engrs. *TT 0.8: SP 0.8.* Dec. 1917 to March 1919 with Ordnance Dept., U. S. Army, as Engr. of Tests at various steel mills, forge plants and machine shops, in charge of all physical testing and heat treatment of steel. *TT 1.3: P 1.3.* Oct. 1919 to date with Erie R. R. Co., Jersey City, N. J., as follows: Oct. 1919 to Feb. 1920 Leveler; Feb. 1920 to Feb. 1921 Transitman, Chf. of Party in field making all types of surveys, plotting up notes, designing track and yard layouts, small buildings and miscellaneous structures, staking out construction work in field; Feb. to July 1921 Jun. Engr.-Asst. Engr. Accountant, and July 1921 to Nov. 1922 Asst. Engr.-Engr. Accountant, in charge of compilation of valuation reports and record plans in accordance with Valuation Order No. 3 of Interstate Commerce Comm.; since Nov. 1922 Asst. Engr. in charge of Eng. Corps and Drafting Room, responsible for field surveys, design-

ing, plans, estimates and specifications and laying out new construction in field (work of Eng. Corps covers track and yard layouts, building of all kinds, small bridges, culverts, drainage facilities, pumping stations, steel, timber and reinforced concrete coal pockets and trestles, boiler houses, etc.; estimated amount of work per year \$3 000 000). *TT 5.6: SP 1.7: P 3.9: RC 3.9: D 2.6. TT 7.7: SP 2.5: P 5.2: RC 3.9: D 2.6.* Refers to W. M. Dawley, H. A. C. Hellyer, H. F. King, S. K. Knox, A. T. Ricketts, J. W. Smith.

**520 (6) FOREMAN, CHARLES ERNEST**, Spartansburg, Pa. (Age 26. Born Spartansburg, Pa.) 1925 B. S., Pa. State Coll. Sept. 1918 to Jan. 1920 (Intermittently) with E. P. Mont Blane, Chicago, Ill., on farm and city surveying. June to Sept. of years 1921 and 1922 Chainman, and June to Sept. of years 1923 and 1924 Transitman, Pennsylvania State Highway, after June 1924 in charge of leveling party. *TT 2.5: SP 2.5.* Refers to H. N. Benkert, R. O'Donnell, W. P. Rothrock, R. L. Sackett, E. D. Walker, R. I. Webber.

**521 (11) FOX, WILLIAM JOSEPH**, City Hall, South Pasadena, Cal. (Age 27. Born Fairfield, Ala.) 1924 C. E., Univ. of South Cal. 1915 to 1916 Draftsman, Delaval Steam Turbine Co., Trenton, N. J. *TT 3: SP 3.* 1916 to 1917 Draftsman and Transitman, Public Service Corporation, Trenton. *TT 1.7: SP 1.7.* 1917 to 1918 Levelman, New Jersey State Highway Dept., Trenton. *TT 1: SP 1.* 1918 to 1919 Transitman, DuPont Eng. Co., Nashville, Tenn. (3 months) and Tennessee Coal & Iron Co., Fairfield, Ala. (4 months). *TT 0.5: SP 0.5.* 1919 to 1920 Asst. Engr., construction of Kamahamaha Highway, Honolulu, Hawaii. *TT 1: P 1: RC 1: D 1.* 1921 to 1922 Asst. Field Engr., Consolidated Sugar Co., Iloilo, Philippine Islands (3 months), and Field Engr., Lima (Peru) Nitre Corporation (9 months). *TT 1: P 1: RC 1: D 0.7.* 1922 to 1923 Testing Inspector, concrete and asphalt, City of Fresno, Cal. (4 months), and Asst. Engr. with Gierlich Bros. (10 months) in charge of field party in laying out all kinds of municipal improvements, City of Monrovia, subdivision surveys and miscellaneous construction work; also Eng. Draftsman. *TT 1.1: P 1.1: RC 1.1: D 0.4.* 1924 to date City Engr., City of South Pasadena. *TT 1: P 1: RC 1: D 1. TT 10.4: SP 6.3: P 4.1: RC 4.1: D 3.1.* Refers to F. Gillelen, G. W. Goethals, R. V. Orbison, A. L. Sonderegger, A. K. Warren.

**522 (8) FRANKS, FRED LESTER**, 1348 Howard Ave., Chicago, Ill. (Age 39. Born Medfield, Mass.) 1912 B. S., Mass. Inst. Tech. June 1907 to Oct. 1910 Aid and Asst., U. S. Coast and Geodetic Survey, on surveys, including planetable, hydrography and triangulation, and acting as Ship's Officer; from Sept. to Dec. 1907 in charge of field party. *TT 5.4: SP 3.3: P 2.1: RC 0.3.* Nov. 1910 to Oct. 1911 Computer and Asst. Engr., Isthmian Canal Comm., Panama, Computer on triangulation and land survey control by geodetic methods, also plane-table surveys. *TT 0.9: SP 0.8: P 0.1: RC 0.1.* July 1912 to April 1913 Timekeeper, Asst. Supt. and Estimator, Barrows-Stewart Co., on concrete dam and building construction in Boston, Mass., and New York State. *TT 0.8: SP 0.8.* Aug. 1913 to Dec. 1914 Draftsman and Estimator, City of Cincinnati Underground Investigation and Rapid Transit Comm., including work on designing and estimating of rapid transit structures for proposed lines. *TT 1.4: SP 0.4: P 1: D 0.5.* March 1915 to May 1916 Draftsman, Osborn Eng. Co., Cleveland, Ohio, office work and drafting plans for buildings and rapid transit structures. *TT 1.2: SP 1: P 0.2.* Feb. 1917 to Aug. 1918 Designer and Estimator, Pittsburgh Transit Comm., on report for proposed rapid transit lines for the city, fare rate litigation of Pittsburgh surface lines and valuation work on surface lines; after June 1918 Chf. Engr. *TT 1.5: P 1.5: RC 0.5: D 0.5.* Aug. 1918 to March 1919 Ensign and Lieut. (j. g.), U. S. Navy, transport service. *TT 0.7: SP 0.7.* June 1919 to May 1921 and July 1922 to June 1924 Draftsman and Designer for Marshall & Fox, Archts., Chicago, Ill.; Structural Draftsman and design on plans for buildings. *TT 3.9: P 3.9.* July 1921 to April 1922 Estimator and Office Engr., Underground Constr. Co., Contrs., Chicago. *TT 0.8: SP 0.8.* June 1924 to date in charge of Structural Dept. for Coolidge & Hodgdon, Archts., Chicago, on plans for hospital for Univ. of Chicago and various other buildings. *TT 0.8: P 0.8: RC 0.8: D 0.8.* *TT 17.4: SP 7.8: P 9.6: RC 1.7: D 1.8.* Refers to R. W. Emmert, B. L. Green, E. K. Morse, L. G. Parker, C. M. Saville, H. A. Seran, S. E. Shoup.

**523 (7) FREEMAN, LAWRENCE STEPHEN**, 1340 Volland St., Ann Arbor, Mich. (Age 27. Born Colden, N. Y.) Sept. 1917 to Sept. 1918 in charge of blue print room at Niagara and later at Austin St. Plant of Curtis Aeroplane Co., Buffalo, N. Y. Jan. to April 1919 Draftsman and designing, Armstrong Cork & Insulation Co., Pittsburgh, Pa. *TT 0.2: SP 0.2.* April to June 1919 Draftsman for J. P. LeVigne, Inventor, Detroit, Mich. *TT 0.2: SP 0.2.* July to Dec. 1919 Rodman and Chainman on field party laying out buildings and property lines on New Cadillac Plant No. 8, Detroit. *TT 0.4: SP 0.4.* Feb. to Sept. 1920 Fireman on steam boiler on portable sawmill for Herbert E. Warren, West Falls, N. Y. June 1922

to Sept. 1923 Rodman, Chairman and Instrumentman with City Engr., Tulsa, Okla. *TT 1.3: SP 1.3*. Sept. 1923 to Sept. 1924 in charge of blue print room for Drawing Dept., Univ. of Michigan. Aug. to Sept. 1924 with R. A. Dodge, Ann Arbor, Mich., drafting and computing on large storm sewer; computed earthwork and concrete; drafted sewer sections. *TT 2.1: SP 2.1*. Refers to A. H. Blanchard, W. C. Hoad, H. W. King, R. L. Morrison, C. Schultz, R. H. Sherlock, C. O. Wisler.

**524 (15) FUQUA, LAWRENCE FRANKLIN**, 2914 San Jacinto St., Houston, Tex. (Age 21. Born Kingfisher, Okla.) Sept. 1921 to June 1922 student, Graceland Coll., Lamoni, Iowa. July 1922 to March 1923 Engr.'s Clerk, and March to June 1923 Rodman and Chairman, City of Houston, Tex. *TT 0.9: SP 0.9*. June to July 1923 Rodman and Chairman with Harrington, Howard & Ash., Kansas City, Mo. *TT 0.1: SP 0.1*. July to Aug. 1923 Rodman and Instrumentman on paving work, with A. J. Ralph, Kansas City. *TT 0.2: SP 0.2*. Aug. to Sept. 1923 Rodman and some instrument work on drainage project under Res. Engr., Drainage Dist. No. 12, Harris County, Tex. *TT 0.2: SP 0.2*. Sept. to Nov. 1923 Rodman and Inspector on pile-driver, Houston Lighting & Power Co. Plant. *TT 0.3: SP 0.3*. Nov. 1923 to date with City of Houston, until June 1924 on general office work and instrumentman on gravel street paving, and since then Jun. Engr., checking, computing and compiling estimates. *TT 1.4: SP 1.4*. *TT 3.1: SP 3.1*. Refers to H. Culpepper, A. S. Hadley, J. G. McKenzie, J. C. McVea, W. H. Mead, L. B. Ryon, Jr.

**525 (11) GEMPERLE, PAUL FRANCIS**, 1104 Central Bldg., Los Angeles, Cal. (Age 33. Born Uzwil, Switzerland.) Approx. 1 year student, Swiss Federal Polytechnic Inst., Zurich, Switzerland. 1915 passed examination for Surveyor, Swiss Federal Cadastral and Topographic Survey. Nov. 1916 to Sept. 1918 Rodman, Instrumentman, and Div. Engr., Chicago, Burlington & Quincy R. R., Casper, Wyo., construction and maintenance. *TT 1.8: SP 1.6: P 0.2*. Oct. 1918 to Oct. 1919 Asst. Engr., Colorado Fuel & Iron Co., Trinidad, Colo., mine and surface surveying. *TT 1.1: P 1.1*. Oct. 1919 to Feb. 1920 Field Draftsman, San Joaquin Light & Power Corporation, Fresno, Cal., drafting preliminary surveys of hydro-electric power projects. *TT 0.3: SP 0.3*. Feb. to Sept. 1920 Asst. Engr., Beckman & Linden Eng. Corporation, San Francisco, Cal., investigation of irrigation projects. *TT 0.7: P 0.7*. Oct. 1920 to June 1923 Field and Office Engr., Verde River Irrigation & Power Dist., Phoenix, Ariz., preliminary surveys and investigation of water supply of this district. *TT 2.7: P 2.7: RC 1.3*. July 1923 to March 1924 traveling. March 1924 to date Asst. Engr. for J. B. Lippincott, Los Angeles, Cal., design and construction of irrigation and municipal water supply projects. *TT 1.3: P 1.3: RC 0.7: D 0.6*. *TT 7.9: SP 1.9: P 6: RC 2: D 0.6*. Refers to W. H. Becker, G. Cromwell, F. T. Darrow, J. B. Lippincott, E. A. Rowe, K. Q. Volk.

**526 (9) GILLIS, LAWRENCE ROBERT**, 10625 St. Mark Ave., S. W., Cleveland, Ohio. (Age 27. Born Blue Island, Ill.) 1923 B. S. E. in Civ. Eng., Univ. of Mich. June 1923 to Nov. 1924 with Hubbell, Hartgering & Roth, Cons. Engrs., Detroit, Mich., as Inspector and Engr. on construction of sewer system, City of Springwells, Mich. (6½ months), Draftsman in City Engr.'s office, Springwells (4 months), Draftsman on preliminary sewer survey for Wyandotte, Mich. (1 month) and Constr. Engr. on sewer and municipal highway construction (5¼ months). *TT 3.4: SP 2.9: P 0.5*. Dec. 1924 to Feb. 1925 Instrumentman, Ford Motor Co., C. E. Dept., Dearborn, Mich. *TT 0.2: SP 0.2*. March 1925 to date Draftsman, New York, Chicago & St. Louis R. R. Co., Cleveland, Office of Engr. Asst. to Pres., preliminary design and study on two-level freight terminal facilities for Cleveland. *TT 0.2: SP 0.2*. *TT 3.8: SP 3.3: P 0.5*. Refers to J. H. Cissel, E. L. Eriksen, W. C. Hoad, H. E. Riggs, G. H. Tinker, N. Van Eenam, C. O. Wisler.

**527 (11) GIST, JOHN C.**, Box 906, Arcadia, Cal. (Age 32. Born Leavenworth, Kans.) 1914 B. S. in Civ. Eng., Kans. State Agri. Coll. June 1914 to Sept. 1917 with Missouri Valley Bridge & Iron Co., until March 1916 as Draftsman on shop-details and erection drawings; then Timekeeper on Arkansas River Bridge at Tulsa, Okla., and after Nov. 1916 Asst. Engr. in office on design, estimate and details. *TT 5.2: SP 5.2*. Sept. 1917 to Dec. 1918 2d Lieut., Coast Artillery Corps, U. S. Army. Dec. 1918 to June 1922 Res. Engr., Missouri Valley Bridge & Iron Co., at Detroit, Mich., on work including foundations for Michigan Central, Dix Ave. and Jefferson St. Bridges, all on River Rouge. *TT 3.5: P 3.5: RC 3.5*. Sept. 1922 to date Constr. Engr., Ross Constr. Co., Los Angeles, Cal., on Badger Ave. Bascule Bridge, Sec. No. 4, Los Angeles Outfall Sewer, and Big Santa Anita Dam. *TT 2.8: P 2.8: RC 2.8*. *TT 11.5: SP 5.2: P 6.3: RC 6.3*. Refers to E. H. Connor, L. E. Conrad, W. H. Jones, H. A. Shuptrine, L. C. Smith, H. S. Tullock, P. H. Van Etten.



**528 (1) GOLDMAN, JOSHUA HAROLD**, 259 Nott Ave., Long Island City, N. Y. (Age 23. Born Boston, Mass.) B. S., Dartmouth Coll. 1925 C. E., Thayer School of Civ. Eng. *TT 2: SP 2.* Refers to P. S. Dow, H. K. Endemann, R. Fletcher, C. A. Holden, R. R. Marsden, A. P. Richmond, Jr.

**529 (13) GOODHUE, HOWARD WILLIAM**, Exchequer, Cal. (Age 22. Born Chicago, Ill.) 1924 B. S. in Civ. Eng., Cal. Inst. Tech. Aug. to Sept. 1924 Reinforcing Steel Estimator, G. L. Eastman Co., Los Angeles, Cal., estimating and detailing. Sept. 1924 to date with Merced Irrigation Dist., chaining, rodding, running transit and level, general office work, plotting notes; at present Transitman. *TT 2.5: SP 2.5.* Refers to D. R. McFarland, R. R. Martel, W. W. Michael, F. Thomas, R. White.

**530 (14) GOTWALS, EUGENE WARREN**, Court House, Maryville, Mo. (Age 23. Born St. Joseph, Mo.) Dec. 1919 to July 1921 Rodman, Gen. Asst. to Engr. on surveys and construction, July 1921 to June 1922 Instrumentman, preliminary surveys and construction, and June to Sept. 1922 Asst. Engr. on highway construction, Buchanan County Special Highway Dept. *TT 2.8: SP 2.8.* Sept. 1922 to July 1923 Draftsman, preparing plans and estimates, and designing highway projects (grading and paving) and July 1923 to date Asst. Project Engr., laying out and supervising construction of highways, Missouri State Highway Comm. *TT 2.5: P 2.5. TT 5.3: SP 2.8: P 2.5.* Refers to J. B. Bennett, C. W. Brown, J. D. Mohler, B. H. Piepmeier, C. A. Shockley.

**531 (1) GOWRIE, WILLIAM ARTHUR**, P. O. Box 35, San Pedro de Macoris, Dominican Republic. (Age 38. Born Manzanillo, Cuba.) 1909 C. E., Univ. of Notre Dame, Ind. June 1910 to April 1911 Instrumentman, Dept. of Public Works, Dominican Republic. *TT 2.9: SP 2.9.* May to Nov. 1911 on plans and estimates of government buildings and parks, Dept. of Architecture, Dominican Republic. *TT 0.6: P 0.6: RC 0.2: D 0.4.* Dec. 1911 to Jan. 1914 building contracting, Guantanamo, Cuba, design and construction of dwellings and theatre. *TT 2.1: P 2.1: RC 1.5: D 0.6.* Feb. to July 1914 Mun. Engr., Guantanamo, estimates, supervision and construction, buildings and pavement. *TT 0.5: P 0.5: RC 0.5.* Aug. 1914 to July 1915 general contracting, Guantanamo, designing and construction of buildings; laying water mains on improved section for private owners. *TT 1: P 1: RC 0.8: D 0.2.* Aug. 1915 to April 1922 in charge of Civ. Eng. Dept., Ingenio Cristobal Colon (Sugar Estate), San Pedro de Macoris, Dominican Republic, located and built 35 km. of railroad line, yard terminal, water tanks (concrete), sugar warehouse (steel); designed and erected dwellings, building for cane scale; erected scale (10 tons); designed and built 250-ft. wharf on creosoted piles, retaining wall (15 ft. high) with stairway (masonry and concrete), concrete culverts and 75 ft. bridge (pile-driven), also surveys; relocation and reconstruction of 15 km. of railroad; in charge of Maintenance Dept. of railroad (approx. cost of construction, \$175 000, reconstruction \$30 000, steel warehouse \$10 000, buildings \$25 000, wharf \$7 000, retaining wall \$1 500, culverts and bridges \$5 000, maintenance on 60 km. of railroad \$84 000); also designed 800 000-gal. water cistern, concrete lined, with three compartments; made excavations and began concrete work. *TT 6.8: P 6.8: RC 5: D 1.8.* May 1922 to Aug. 1924 Gen. Contr., San Pedro de Macoris, design, estimate and construction of dwellings. *TT 2.3: P 2.3: RC 2.2: D 0.1.* Sept. to Dec. 1924 with Central Quisqueya, San Pedro de Macoris, located and constructed 7 km. of railroad. *TT 0.3: P 0.3: RC 0.3.* Jan. to March 1925 Gen. Contr., San Pedro de Macoris, design and construction of buildings; at present in charge of Eastern Dept. of Public Works, San Pedro de Macoris; macadam roads (construction and maintenance), port improvements. *TT 0.3: P 0.3: RC 0.2: D 0.1. TT 16.8: SP 2.9: P 13.9: RC 10.7: D 3.2.* (Applies in accordance with Sec. 1, Art. I of the By-Laws.)

**532 (1) GRAND, HARRIS**, 571 Hendrix St., Brooklyn, N. Y. (Age 22. Born New York City.) 1923 C. E., Pol. Inst. of Brooklyn. July 1923 to date Jun. Asst. Engr., Grade 1, New York State Bureau of Highways, over 1½ years on construction as Asst. to Engr.-in-Chg. of New Jersey State Line, nearly 4 months on surveying as Instrumentman and Notetaker, and about 5 months on design of various state highways, determination of line, grade, excavation, embankment, concrete, cement, reinforcement, culverts, pipe, etc., also determination of cost and preparation of engineers' and other estimates, progress reports, etc. *TT 4: SP 2: P 2.* Refers to H. R. Codwise, H. P. Hammond, C. W. Hudson, C. F. Morse, E. J. Squire.

**533 (1) GRANTZ, WALTER ANTON HENRY**, 457 Fifty-fourth St., Brooklyn, N. Y. (Age 28. Born New York City.) 1920 C. E., Cornell Univ. June to Dec. 1918 2d Lieut., Coast Artillery, U. S. Army, over 3 months in command of 3d Co., C. A. C., Ft. Winfield Scott,

Cal., and in direct and responsible charge of mine planting. *TT 2.5: SP 2: P 0.5: RC 0.4.* July 1920 to Feb. 1922 Transitman, Lehigh Valley R. R., office and field work on maintenance and construction, including surveys, estimating and design of minor projects. *TT 1.6: SP 1.6.* Feb. 1922 to date with Dwight P. Robinson & Co., Inc., as follows: Feb. 1922 to March 1923 Draftsman and Designer of industrial plants; March to Dec. 1923 Field Engr. and cost keeping on construction of large apartment houses in New York City; Dec. 1923 to Jan. 1924 Designer, track layout and sewer design for, and Jan. to Oct. 1924 Field Office Engr. on construction of, locomotive and car repair shop for Southern Ry., Birmingham, Ala.; since Oct. 1924 Job Engr. on construction of apartment house and industrial plants. *TT 3.4: SP 1.1: P 2.3: RC 0.7: D 0.1. TT 7.5: SP 4.7: P 2.8: RC 1.1: D 0.1.* Refers to W. C. Bodycomb, P. C. Jones, R. A. Marshall, G. Schobinger, C. L. Walker, R. B. Williams, Jr.

**534 (1) GREENMAN, RALPH ALAN**, 63 Highwood Terrace, Weehawken, N. J. (Age 31. Born Sioux City, Iowa.) Student, Armour Inst. of Technology in Mech. Eng. (Sept. 1913–May 1914) and in Architecture (Feb. 1915–June 1916), Univ. of Minnesota in Gen. Eng. (principally Civ. Eng. subjects) (Feb.–April 1917 and Oct. 1919–Feb. 1921), and George Washington Univ. in Civ. Eng. (Oct. 1922–May 1924, evenings); completed major studies for Architectural and Civ. Eng. One summer Material Clerk for G. W. Harris, Bldr., Chicago, and one summer Foreman, Schmidt Constr. Co., Pavers, Chicago. *TT 1.5: SP 1.5.* Sept. 1914 to Feb. 1915 Asst. Supt. of Constr. (Rodman), Chicago & North Western Ry., Elroy, Wis., building depot, inspection, reports, drafting, office routine. *TT 0.4: SP 0.4.* Feb. to May 1916 Computer, Eng. Dept., Chicago & Eastern Illinois R. R. *TT 0.3: SP 0.3.* May to Nov. 1916 Asst. Supt. of Constr., Minnesota Milling & Power Co., Minneapolis, Minn. rebuilt building for mill, planning, supervision, office routine. *TT 0.5: SP 0.5.* Nov. 1916 to Feb. 1917 Computer, Eng. Dept., Northern Pacific R. R., St. Paul, Minn. *TT 0.3: SP 0.3.* April 1917 to Aug. 1919 Chf. Draftsman, U. S. S. *Prometheus*, repair ship for overseas fleet, etc., at Brest, France, made sketches, mechanical, structural and architectural working drawings, and supervised through shop or in field when necessary. *TT 2.4: SP 0.1: P 2.3: RC 2: D 2.* Feb. 1921 to April 1922 Supt. of Constr. for John E. Fowler, Syrup Mfr., Rosslyn, Va., planned, designed and supervised rebuilding of building (approx. cost \$55 000). *TT 1.1: RC 1: D 0.1.* April 1922 to Jan. 1925 Plant Engr., The Potomac Lithograph Mfg. Co., Lithographers, Washington, D. C., correspondence and purchasing, supervision of factory routine, installation and repair of machinery and equipment; supervised Finishing Dept. *TT 2.7: P 2.7: RC 2.7.* Jan. 1925 to date Production Mgr., The Carter-Ludwig Co., Mounters and Finishers of Lithographic Advertising Displays, etc., in charge of factory and production. *TT 0.3: P 0.3: RC 0.3. TT 9.5: SP 2.1: P 6.4: RC 6: D 2.1.* Refers to F. Bass, A. S. Cutler, O. B. French, O. M. Leland, H. Miller.

**535 (12) GREISSER, VICTOR HUGO**, Care, Washington Water Power Co., Spokane, Wash. (Age 48. Born Morton, Ill.) 1893 to 1900 miscellaneous work as Elec. Apprentice, Armature Winder, Elec. Mechanic, etc. 1900 to 1902 (2 years) special student, Elec. Eng. course, Univ. of Wisconsin. 1903 to 1904 Asst. Foreman, Northern Elec. Co., Madison, Wis. 1904 to 1906 electrical testing, erection and construction work, National Elec. Co., Milwaukee, Wis. 1906 to date with Washington Water Power Co., Spokane, Wash., as follows: 1906 to 1907 Elec. Constr. Foreman; 1907 to 1912 Designing Engr. on electrical features of hydro-electric power plants, transmission lines, substations, etc.; 1912 to 1919 Elec. Engr., responsible charge of electrical design and construction of power stations, substations, etc.; since 1919 Chf. Engr. in responsible charge of all engineering for hydro-electric generating plants, transmission and distribution systems (six power stations, 171 000 h.p. capacity), embracing all branches of engineering in construction, operation and business end of large hydro-electric power system covering about 300 by 300 miles; also in charge of all major construction work; at present on preliminary design for 250 000-h.p. hydro-electric station on Columbia River. *TT 18: RC 15: D 3.* Refers to O. S. Bowen, A. D. Butler, H. L. Gray, C. S. MacCalla, J. C. Stevens, E. G. Taber, A. J. Turner.

**536 (2) GRIGGS, EDWARD FRY**, 179 Greenfield St., Hartford, Conn. (Age 31. Born Palo Alto, Cal.) Licensed Prof. Engr., New York State. 1915 B. S. C. E., Purdue Univ. June to Sept. 1914 Surveyor with A. I. Silander, Chicago, Ill. *TT 2: SP 2.* June 1915 to Feb. 1916 Asst. on Engr. Corps, Chicago & Eastern Illinois R. R., Chicago, map-making, bridge inspection and valuation estimates. *TT 0.7: P 0.7.* Feb. to Oct. 1916 Detailer of mill buildings and bridges, Penn Bridge Co., Beaver Falls, Pa. *TT 0.7: P 0.7.* Oct. 1916 to March 1917 Detailer of bridges, buildings and tipples, Pan American Bridge Co., New

Castle, Ind. *TT 0.4: P 0.4: D 0.2.* March to May 1917 Detailer of bridges and buildings, Berlin (Conn.) Constr. Co. *TT 0.2: P 0.2.* May 1917 to May 1919 with 11th U. S. Engrs., became Corporal, Sergeant and 2nd Lieut., in charge of railroad and bridge construction, trench and barb wire defenses. *TT 2: P 2: RC 1.5.* May 1919 to Feb. 1920 Supt. of Constr., Barney-Ahlers Constr. Corporation, New York City, in charge of dock building and building construction. *TT 0.8: P 0.8: RC 0.8: D 0.3.* Feb. to May 1920 Designing Engr., Ford Motor Co., River Rouge, Mich., designing reinforced concrete structures. *TT 0.3: P 0.3: D 0.3.* May 1920 to March 1921 Sales Engr., The Bldg. Products Co., Toledo, Ohio, reinforced concrete designing and selling. *TT 0.8: P 0.8: RC 0.4: D 0.8.* March 1921 to May 1923 Sales Engr., The Fireproof Products Co., New York City, design and sales of reinforced concrete systems, in charge of Bridgeport office. *TT 2.2: P 2.2: RC 2.2: D 2.2.* May 1923 to date Sales and Cons. Engr. with Topper & Griggs, Hartford, Conn., designing structural steel and reinforced concrete buildings and sale of products. *TT 2: P 2: RC 2: D 2.* *TT 12.1: SP 2: P 10.1: RC 6.9: D 5.8.* Refers to W. J. Barney, V. T. Boughton, R. S. Buck, W. T. Chevallier, W. K. Hatt, I. Hausman, H. S. Harding, C. W. Haefner, J. R. O'Donnell, W. B. Parsons, C. E. Shively, R. B. Wiley.

**537 (1) GROSS, LOUIS HENRY**, 511 West 178th St., New York City. (Age 23. Born New York City.) A. B., Columbia Coll. 1923 C. E., Columbia School of Eng. *TT 2: SP 2.* Refers to A. H. Beyer, J. K. Finch, W. J. Krefeld, E. B. Lovell, C. R. Wyckoff.

**538 (1) GROSSMAN, EDMUND EUGENE**, 1619 Grand Central Terminal, New York City. (Age 26. Born Albany, N. Y.) 1921 B. S. in M. E., and 1923 C. E., N. Y. Univ. April 1917 to Jan. 1919 Head of Eng. Dept., repairs, details and statistics, U. S. Navy, U. S. S. *Missouri*. *TT 3.7: SP 3.7.* Jan. to March 1919 and May 1921 to May 1922 Engr., Burnrite Fuel Co., Newark, N. J., design of briquetting machinery. *TT 1.2: SP 0.2: P 1: RC 1: D 1.* May 1922 to May 1923 Engr., Truscon Steel Co., New York City, design, detail and estimating of reinforced concrete structures. *TT 1: P 1: RC 0.8: D 1.* May 1923 to date Engr., Ferro Bldg. Products Co., Inc., New York City, design, detail, estimating and sales, all types fireproof construction. *TT 2: P 2: RC 2: D 2.* *TT 8: SP 4: P 4: RC 3.8: D 4.* Refers to A. Haring, A. J. Mantica, C. T. Schwarze, C. H. Snow, R. J. Warne.

**539 (14) GROVE, RUSSELL SINCLAIR**, 5666 Cabanne, St. Louis, Mo. (Age 23. Born Colorado Springs, Colo.) 1925 S. B., Mass. Inst. Tech. *TT 2: SP 2.* Refers to J. B. Babcock, 3d, H. K. Barrows, H. L. Bowman, C. M. Spofford, C. H. Sutherland.

**540 (7) GUNN, JOHN PATTERSON**, 324 E. Jefferson St., Ann Arbor, Mich. (Age 23. Born Lexington, Ky.) 1925 B. S. E., Univ. of Mich. *TT 2: SP 2.* Refers to J. H. Cissel, L. M. Gram, H. W. King, L. C. Pope, H. E. Riggs, R. H. Sherlock.

**541 (1) GUT, JOHN JACQUES**, 42 West 77th St., New York City. (Age 27. Born Zurich, Switzerland.) 1916 Struc. Engr., Eng. School, Zurich, Switzerland. May to Aug. 1916 with Structural Steel Co. of Wyhlen, Germany, as Draftsman in charge of layout of working drawings of steel structures. *TT 0.3: SP 0.3.* Sept. 1916 to Jan. 1919 with Structural Steel Co., Koch in Zurich, Switzerland, as Engr.-Draftsman in charge of design and drafting of steel structures and bridges. *TT 2.4: SP 0.8: P 1.6: RC 1.* Feb. to May 1919 with Structural Steel Co. of Vevey, Vevey, Switzerland, as Structural-Draftsman in charge of drafting of steel structures. *TT 0.3: P 0.3.* June 1919 to Aug. 1920 with Mr. Muret, Cons. Engr., Lausanne, Switzerland, as Engr.-Draftsman in charge of design and drafting of reinforced concrete structures. *TT 1.2: P 1.2.* Sept. 1920 to June 1923 with Contr. Co., Bringer, Paris, France, as Engr.-Designer of industrial buildings, reinforced concrete bridges; in charge of design, general direction of industrial buildings in Asia Minor. *TT 2.8: P 2.8: RC 1: D 0.9.* Sept. 1923 to Feb. 1924 with Francisco & Jacobus, Archts. and Engrs., as Engr.-Draftsman, design and drafting of industrial reinforced concrete and steel buildings. *TT 0.5: P 0.5.* March 1924 to date with Republic Fireproofing Co., New York City, as Chf. Designer of Eng. Dept., in charge of supervision of design and layout of reinforced concrete and steel structures; Chf. Designer of Estimate Dept. *TT 1.2: P 1: RC 1: D 0.2.* *TT 8.7: SP 1.1: P 7.6: RC 3: D 1.1.* Refers to F. G. Baum, A. Broelner, F. L. Francisco, V. T. Givotovsky, R. F. Jacobus, R. J. Warne.

**542 (13) HACKLEY, ROY CHESTER**, 625 Market St., San Francisco, Cal. (Age 45. Born San Francisco, Cal.) 1901 to 1906 student, Special Eng. course, Univ. of California (4 years), and 1 year student, Harvard Univ. 1908 to 1912 member of Keystone Constr. Co.; had charge of construction of buildings, bridges, tunnels and sewers. *TT 4: P 4: RC 4.* 1912 to 1914 Engr. and Gen. Supt., E. T. Thurston & Co. of San Francisco, on general construction. *TT 2: P 2: RC 2.* 1914 in charge of construction of irrigation works for Stan-

ford Estate. *TT 0.3: P 0.3: RC 0.3.* 1914 to 1918 Engr. in charge of construction of Twin Peaks Tunnel (\$4 000 000 project) in San Francisco for R. C. Storrie & Co. *TT 3.5: P 3.5: RC 3.5.* 1918 to 1920 Asst. Chf. Inspector and later Executive Asst. to Dist. Mgr., U. S. Shipping Board, in charge of Southern California section. *TT 2: P 2: RC 2.* 1920 to 1925 Engr. and Gen. Supt., R. C. Storrie & Co., had direct charge of construction of \$2 250 000 Skagit Tunnel for City of Seattle; also on Feather River Power Co. Project. *TT 5: P 5: RC 5.* 1925 consulting work on tunnel lining for Pacific Gas & Elec. Co. and others. *TT 0.2: P 0.2: RC 0.2.* *TT 17: P 17: RC 17.* Refers to H. D. Dewell, W. L. Huber, L. R. Jorgensen, O. W. Peterson, A. J. Turner, H. C. Vensano.

**543 (9) HAGER, OTTO ERNEST**, 634 Jefferson Ave., Indianapolis, Ind. (Age 32. Born Dresden, Germany.) 1915 C. E., Lehigh Univ. July to Nov. 1915 Foreman, Bethlehem Steel Co., Bethlehem, Pa., erecting steel mill buildings. *TT 2.3: SP 2.3.* Nov. 1915 to March 1920 with Pennsylvania R. R. Co. as follows: Nov. 1915 to Aug. 1916 Draftsman at Williamsport, Pa., on surveys and plans; Aug. 1916 to Sept. 1917 Transitman, surveys, cost estimates, etc.; Sept. to Dec. 1917 Asst. to Asst. Bridge Engr., at Philadelphia, Pa., standardizing designs for bridge substructures; Dec. 1917 to March 1920 Asst. Track Supervisor, at Wilmington, Del., directing track foremen and taking care of accounting for labor and material. *TT 4.4: SP 2.1: P 2.3: RC 2.3.* March to Sept. 1920 Concrete Designer, Turner Constr. Co., Buffalo, N. Y., design and plans for reinforced concrete structures. *TT 0.5: SP 0.5.* Sept. 1920 to Sept. 1921 with Ferguson Iron & Steel Co., Buffalo, and Sept. to Dec. 1921 with Buffalo Structural Steel Co. as Steel Designer and Estimator, on estimates, design and details for steel structures. *TT 1.3: SP 0.3: P 1: D 1.* Dec. 1921 to April 1922 Structural Engr., E. B. Green & Sons, Inc., Archts., Buffalo, Associate in design for steel and foundations of 20-story office building and 12-story club house. *TT 0.3: P 0.3: D 0.3.* April 1922 to Sept. 1923 Steel and Concrete Designer with Plumer & Mann, Inc., Engrs. and Archts., Buffalo, design and plans for steel and concrete structures. *TT 1.4: P 1.4: D 1.4.* Sept. 1923 to May 1924 Instructor in Civ. Eng., Univ. of Nebraska; organized and conducted courses in Structures, Elementary Construction and Surveying. *TT 0.7: P 0.7: RC 0.7.* May 1924 to date Asst. Engr. of Structures, New York, Chicago & St. Louis R. R. Co., Indianapolis, Ind., design and plans for all types of railway structures. *TT 1: P 1: D 1. TT 11.9: SP 5.2: P 6.7: RC 3: D 3.7.* Refers to A. Diefendorf, R. J. Fogg, F. P. McKibben, C. E. Mickey, W. H. Pahl, H. E. Plumer, J. C. Wallace.

**544 (10) HALL, WILLIAM HOLLAND**, College Station, Durham, N. C. (Age 40. Born Fayetteville, N. C.) A. B. and A. M., Trinity Coll. (N. C.) 1915 B. C. E., Univ. of Mich. 1915 to 1918 and 1919 to 1921 Asst. Prof., and 1921 to 1925 Prof. of Civ. Eng., Trinity Coll. (now Duke Univ.). *TT 11: SP 2: P 9.* Refers to G. M. Braune, T. Y. Milburn, T. Saville, F. E. Schnepfe, H. Tucker.

**545 (14) HALLEY, HENRY CLAY**, 5630 Delmar Ave., St. Louis, Mo. (Age 31. Born Auxvasse, Mo.) 1918 B. S., Univ. of Mo. Vacations June 1915 to Sept. 1917 county work, surveys and inspection, and June 1918 to July 1919 county and miscellaneous work for County Highway Engr., Auxvasse, Mo. *TT 1.8: SP 1.8.* July to Oct. 1919 Instrumentman with survey party, Oct. 1919 to April 1920 and Oct. 1920 to April 1921 on design of road plans, and April to Oct. 1920 Chf. of survey party, M. S. Murray, Jefferson City, Mo., for Missouri State Highway Comm. *TT 1.8: SP 0.3: P 1.5: RC 0.5: D 1.* April 1921 to Jan. 1923 Asst. Div. Engr., and Jan. 1923 to Jan. 1925 Asst. Engr. of Maintenance, Missouri State Highway Comm. *TT 3.7: P 3.7: RC 3.7.* Jan. 1925 to date Sales Promotion, Standard Oil Co. (Ind.). *TT 0.6: P 0.6: RC 0.6.* *TT 7.9: SP 2.1: P 5.8: RC 4.8: D 1.* Refers to R. C. Barnett, C. W. Brown, F. Kersting, H. H. Lotter, B. H. Piepmeyer, F. W. Sayers, W. M. Spann.

**546 (9) HAMMELL, CHARLES EDWARD**, 405 Customhouse, Cincinnati, Ohio. (Age 37. Born Cincinnati, Ohio.) 2 years Student, Purdue Univ. Sept. 1907 to Jan. 1910 Deputy Inspector, U. S. Engr. Office, Cincinnati, Ohio, inspection of concrete work and surveying, Ohio River lock and dam work. *TT 2.3.* March 1910 to Sept. 1911 Instrumentman, C. L. L. & M. Traction Co., Dry Ridge, Ky., railroad preliminary survey, location and construction. *TT 1.5.* Sept. 1911 to April 1917 with U. S. Engr. Office, Cincinnati, until June 1913 as Inspector of concrete work and surveying on construction of Ohio River ice piers, and drafting in office; then Jun. Engr. on Ohio River Dam No. 39, on design of buildings and plant (nearly 1 year) and in charge in field of layout work, designing and inspection (3 years). *TT 5.7: RC 3: D 3.* April 1917 to March 1918 in private practice as Contr.; Designer and Bldr. of concrete construction work, supervising all contracts. *TT 1: RC 1: D 1.* March 1918 to date Jun. Engr., U. S. Engr. Office, Cincinnati, until July 1921 designing and super-



vising various structures for locks and dams on Ohio River; then in charge of permits pertaining to bridges, harbors, terminals and other structures on Ohio River, surveys of harbor lines, and reports of operations of Cincinnati Dist.; since July 1923 in charge of Ohio River dredging from Pittsburgh to Cincinnati, involving direction of double crews on two dredges and two towboats, in charge of permits and harbor lines, and of designing force of Cincinnati Dist. office. TT 7.3: RC 6.3: D 2. TT 17.8: RC 10.3: D 6. Refers to C. I. Grimm, W. M. Hall, L. S. Johnson, C. W. Kutz, L. H. Prell.

**547 (1) HANSEN, EIGIL LUND**, 422 Sixty-third St., Brooklyn, N. Y. (Age 27. Born Bergen, Norway.) 1920 C. E., Princeton Univ. July 1920 to Feb. 1922 Ingenio Barahona, C. por A., Barahona, R. D., as Transitman on irrigation (nearly 3 months), Engr. on factory layout (sugar mill) (6 months) and Asst. Constr. Supt. (Acting Supt.) (1 year). TT 3.7: SP 2: P 1.7: RC 1. April 1922 to June 1925 with Norwegian State Dept. of Roads, Oslo, Norway, as Extra Engr. (1 year), and Dist. Engr. (2¼ years), planning, design and execution of work. TT 3.2: P 3.2: RC 1.2: D 1. TT 6.9: SP 2: P 4.9: RC 2.2: D 1. Refers to G. E. Beggs, F. H. Constant, P. H. Glover, E. B. L. Unger, A. A. Van Petten, G. H. Vedeler. (Applies in accordance with Sec. 1, Art. 1, of the By-Laws.)

**548 (11) HARMON, BURT**, 201 Golden Ave., Long Beach, Cal. (Age 50. Born Adrian, Mich.) 1 year student, Cornell Univ. Aug. 1902 to May 1903 Asst. Engr., Esperanza Min. Co., Cedros Island, Mexico, surveys, construction and operation. TT 0.7: P 0.7. Sept. 1903 to May 1904 Asst. Engr., Columbia Improvement Co., Tacoma, Wash., construction of hydro-electric power plant. TT 0.7: P 0.7. May 1904 to Jan. 1905 Asst. Engr., Washington & Oregon Power Co., Walla Walla, Wash., on construction of hydro-electric power plant. TT 0.7: P 0.7: RC 0.6. Oct. 1905 to April 1906 Surveyor, Los Angeles Aqueduct, preliminary surveys. TT 0.5: P 0.5. April 1906 to Jan. 1907 Asst. Engr., Monterrey (Mexico) Water Works, construction of pumping plant, pipe lines, etc. TT 0.7: P 0.7: RC 0.7. Feb. 1907 to Sept. 1909 Surveyor and Asst. Engr., Los Angeles Aqueduct, location and construction. TT 2.6: P 2.6: RC 2. Sept. 1909 to Dec. 1910 Asst. Engr., Vancouver (B. C., Canada) Power Co., tunnel construction, power plant location. TT 1.2: P 1.2: RC 1.2: D 0.5. Dec. 1910 to Aug. 1914 in private practice, surveys, water supply, flood control. TT 3.7: P 3.7. Aug. 1914 to May 1917 Surveyor, Engr., Los Angeles County, survey, location and design of flood control structures, highway location. TT 2.7: P 2.7: RC 2: D 1. May 1917 to Jan. 1919 Capt., Engrs., U. S. Army, active duty. TT 1.7: SP 1.7. March 1919 to April 1921 with U. S. Engr. Dept., at Los Angeles, Cal., on construction of silt diversion works, design and construction of drainage works, etc. TT 2.1: P 2.1: RC 2: D 1. April 1921 to Sept. 1923 mining, Oaxaca, Mexico. Sept. 1923 to date Hydr. Engr., Long Beach (Cal.) Water Dept., construction, design, operation of municipal water system. TT 1.7: P 1.7: RC 1.7: D 1. TT 19: SP 1.7: P 17.3: RC 10.2: D 3.5. Refers to G. S. Binkley, F. H. Joyner, C. T. Leeds, J. B. Lippincott, W. Mulholland, C. H. Shaw, S. Storrow.

**549 (11) HARP, HARRY LELAND**, P. O. Box 1229, Calexico, Cal. (Age 31. Born Modesto, Cal.) 1918 B. S. in Civ. Eng., and 1920 Hydr. Engr., Pol. Coll. of Eng. Summers 1915 and 1916 Rodman, Chainman and Levelman, Turlock Irrigation Dist. Summer 1917 Chainman and Instrumentman, Tidewater & Southern R. R. TT 2: SP 2. June to Aug. 1918 Instrumentman, California Highway Comm. TT 0.2: SP 0.2. Aug. 1918 to May 1919 with 472d Engrs., U. S. Army and Engr. Dept., Charleston, S. C., as Instrumentman and Chf. of Party on control for military maps. TT 0.7: P 0.7: RC 0.5. May to Nov. 1919 Chf. of Party on transmission line location, Pacific Gas & Elec. Co., San Francisco. TT 0.5: P 0.5: RC 0.5. Nov. 1919 to Nov. 1920 with Oakdale (Cal.) Irrigation Dist., as Asst. Engr. on plans for Melones Dam and Reservoir, etc. TT 1: P 1: RC 1: D 0.2. Nov. 1920 to Oct. 1921 Engr., Board of Harbor Comms., Honolulu, Hawaii, on harbor improvements. TT 0.9: P 0.9: RC 0.9: D 0.2. Oct. 1921 to Feb. 1923 Engr. and Supt., Kohala Ditch Co. and Constr. Engr., Hawaii R. R. Co., Kohala, Hawaii, in charge of design and construction of flumes and pumping plants and water distribution, relocation and construction of railway and design and construction of trestle bridges. TT 1.3: P 1.3: RC 1.3: D 0.7. Feb. to April 1923 Engr., Hammond Lumber Co., Terminal, Cal., on wharf construction. TT 0.2: P 0.2: RC 0.2. April 1923 to June 1924 Structural Engr. with Leonard L. Jones, Archt., Los Angeles, Cal., on design of reinforced concrete buildings. TT 1.2: P 1.2: RC 1.2: D 1.2. June to Sept. 1924 Estimator with May & Grimwood, Gen. Contrs., on designs and estimates of buildings. TT 0.2: P 0.2: RC 0.2: D 0.1. Sept. 1924 to March 1925 Res. Engr., Sonora Constr. Co., Los Angeles, at Hermosillo, Sonora, Mexico, on hydrographic studies and irrigation surveys. TT 0.5: P 0.5: RC 0.5. March 1925 to date Office and Bridge Engr., Mexicali & Gulf R. R.

Mexicali, Mexico, on bridge design and office routine. *TT 0.2: P 0.2: RC 0.2: D 0.1. TT 9: SP 2.2: P 6.8: RC 6.5: D 2.5.* Refers to W. A. Farish, C. K. Fox, W. H. Holmes, S. L. Rothery, B. Smith, R. White.

**550 (2) HARSCH, ERWIN**, 200 Devonshire St., Boston 9, Mass. (Age 30. Born Cincinnati, Ohio.) 1915 B. S. in C. E., George Washington Univ. 1920 S. B., Mass. Inst. Tech. Feb. to June 1913 and Aug. to Oct. 1913 Aid, Computing Div., June to Oct. 1914 Aid on board ship on hydrography and surveying, and June 1915 to Oct. 1916 Deck Officer and Aid, Watch Officer on hydrographic surveys, at Washington office, and as Asst. on wire-drag survey, all for U. S. Coast and Geodetic Survey. *TT 4.1: SP 3.7: P 0.4: RC 0.4.* Oct. 1916 to Dec. 1917 Instructor in Civ. Eng., Univ. of Tennessee. *TT 1: P 1.* June to Sept. 1917 Jun. Engr., U. S. Engr. Dept., in charge of precise leveling for Arkansas River Survey. *TT 0.3: P 0.3: RC 0.3.* Dec. 1917 to Nov. 1919 Ensign, later Lieut. (j.g.), U. S. Naval Reserve Force, Instructor in professional subjects at Officer Material School, Chicago, Ill.; also Watch Officer and Navigating Officer, U. S. Naval Transport Service. *TT 1.9: P 1.9: RC 1.* June 1920 to date with Fay, Spofford & Thorndike, Cons. Engrs., as Draftsman, Designer, Inspector, Res. Engr. and Designing Engr. on bridges, buildings, piers and miscellaneous structures of steel, timber and concrete. *TT 4.8: SP 2.8: P 2: RC 2: D 1.5. TT 12.1: SP 6.5: P 5.6: RC 3.7: D 1.5.* Refers to B. A. Bowman, N. W. Dougherty, C. A. Farwell, F. H. Fay, H. A. Gray, C. M. Spofford.

**551 (1) HASZARD, HENRY VIVIAN MOORE**, Box 35, Wanganui, New Zealand. (Age 37. Born Avondale, Auckland, New Zealand.) June 1905 to Feb. 1911 Drafting Cadet, New Zealand Govt. Rys., on plans, surveys and plans of station yards and bridges; supervised layout of station yards, etc. *TT 5.7: SP 5.7.* May to Oct. 1911 Draftsman, Lands and Survey Dept. of Western Australia, on land subdivision plans. *TT 0.5: SP 0.5.* Oct. 1911 to Nov. 1915 with Public Works Dept. of Western Australia as follows: Oct. 1911 to Aug. 1912 Draftsman on railway construction plans and estimates; Aug. 1912 to Dec. 1913 Asst. Engr. on railway construction, and surveys and plans for water supply for Town of Geraldton; Dec. 1913 to July 1914 Draftsman on engineering plan and estimates; July 1914 to Nov. 1915 Asst. Engr. assisting Engineer for Harbours and Rivers, supervised construction of new deep sea jetty for ocean liners at Albany, Western Australia. *TT 4.1: SP 1.4: P 2.7.* Jan. to Feb. 1916 Draftsman, Lyttelton Harbour Board of New Zealand. *TT 0.1: SP 0.1.* Feb. to Nov. 1916 Asst. Surveyor with Haszard & Haszard, Land Surveyors and Civ. and Min. Engrs., in charge of land subdivision surveys in the field. *TT 0.8: P 0.8: RC 0.8.* Dec. 1916 to May 1919 with Royal Naval V. R., 1 year as Sub-Lieut., assisting in Anti-Submarine Div. of Admiralty, supervising construction of hydrophones in London area; after Dec. 1917 Lieut., 1 year at Malta with Nash Fish hydrophone equipment, trained personnel and fitted out destroyers and patrol trawlers, then Hydrophone Officer on a ship on Otranto Naval Barrage; 6 months in Anti-Submarine Div. of Admiralty. *TT 2.5: SP 2.5.* Sept. to Nov. 1919 Asst. Engr., Public Works Dept. of New Zealand, in charge of survey for large hydro-electric scheme between Lakes Hawea and Wanaka. *TT 0.2: P 0.2: RC 0.2.* Dec. 1919 to date Res. Engr., Wanganui Harbour Board, New Zealand, in responsible charge of all constructional work and structural design. *TT 5.4: P 5.4: RC 5.4: D 5.4. TT 19.3: SP 10.2: P 9.1: RC 6.4: D 5.4.* Refers to R. C. Adams, C. N. Boulton, E. Crow, F. Finch, G. A. Lee, E. H. Rhodes.

**552 (2) HAWKS, WILLIAM ANDREW**, 19 Holbrook St., North Adams, Mass. (Age 30. Born North Adams, Mass.) 1922 B. S., Middlebury Coll. Summers 1914-1916 Transitman and Draftsman in Town Engr.'s office, Adams, Mass. Sept. 1916 to Sept. 1917 Rodman, Interstate Commerce Comm., Washington, D. C., valuation of railroads, Roadway Party No. 2, Eastern Dist. *TT 1: SP 1.* Sept. 1917 to Feb. 1919 first as Private, finally Lieut., F. A., U. S. Army. *TT 1.3: SP 1.3.* March to Dec. 1919 Transitman, United Fruit Co., Preston, Cuba. *TT 0.8: SP 0.8.* Dec. 1919 to Aug. 1921 with Snare & Triest Co., until May 1920 as Res. Engr., at Florida, Cuba, on construction of 14 km. of railroad; then Engr. at Nuevitas, Cuba, on general construction, precast concrete piers; steel sheet metal warehouses, oil tanks, steam shovel excavation and concrete buildings. *TT 1.8: P 1.8: RC 0.8: D 0.1.* Aug. 1921 to Feb. 1922 Transitman, Boston & Maine R. R. *TT 0.5: P 0.5.* Feb. to July 1922 student, Middlebury Coll. Aug. 1922 to Dec. 1923 Civ. Engr., Central Estrella, Camaguey, Cuba, General Sugars Co., railroad location and construction. *TT 1.3: P 1.3: RC 1.3.* Dec. 1923 to April 1924 Supt., Antillian Constr. Co., Nuevitas, on erection of 10 000 000-gal. molasses-handling plant, four 2 000 000-gal. tanks, reinforced concrete boiler and pump house and office building and railroad yard. *TT 0.3: P 0.3: RC 0.3.* April to Nov. 1924 Supt., Ray-

mond Concrete Pile Co., New York City, driving piles. *TT 0.6: P 0.6: RC 0.6. TT 7.6: SP 3.1: P 4.5: RC 3: D 0.1.* Refers to W. I. Baucus, J. J. Collins, C. J. Escoto, A. S. Hobby, G. H. Nolan.

**553 (12) HAWTHORN, GEORGE EDWARD**, 4205 Frances Ave., Seattle, Wash. (Age 35. Born New Rockford, N. Dak.) 1915 B. S. in C. E., Univ. of Wash. June 1913 to Sept. 1914. Transitman, Day Lumber Co., Skagit County, Wash. *TT 2.2: SP 2.2.* July 1917 to Oct. 1924 with State Highway Dept., Washington, as follows: July 1917 to Jan. 1918 Draftsman; Jan. to June 1918 Res. Engr. on road construction; June 1918 to April 1921 Senior Draftsman; April 1921 to Oct. 1924 Chf. Draftsman in charge of drafting room, supervising and laying out work, platting from rough field notes or maps, complete maps and profiles laying of grade lines, balancing of quantities, designing of all types of highways and concrete pavements, culverts and small span bridges; also specifications for all types of highway construction, and other work. *TT 7: SP 0.5: P 6.5: RC 3.8: D 3.4.* Oct. 1924 to date Instructor in Civ. Eng., Univ. of Washington. *TT 0.7: P 0.7. TT 10.9: SP 3.7: P 7.2: RC 3.8: D 3.4.* Refers to W. F. Allison, C. E. Andrew, I. L. Collier, R. M. Gillis, E. R. Hoffman, C. C. More.

**554 (1) HAYES, GEORGE EDWARD**, 60 Park Ave., Maplewood, N. J. (Age 24. Born New York City.) 1921 M. E., Stevens Inst. Tech. Jan. 1923 to date with Underpinning & Foundation Co., Inc., New York City, until Aug. 1923 as Field Engr. on lines, grades, etc., for foundation work; since Aug. 1923 Engr. in charge of Philadelphia office and (until Feb. 1924) of field engineering work and (since then) on supervision of foundation and subway underpinning work both as to field engineering and field execution; also designed a number of foundation and underpinning layouts. *TT 4.5: SP 2: P 2.5.* Refers to J. Breuchaud, J. R. Breuchaud, C. F. Dykeman, W. E. Parker, F. L. Pruyn, P. M. Sax.

**555 (6) HELICK, REUBEN HAROLD**, 205 Biddle Ave., Wilkinsburg, Pa. (Age 42. Born Easton, Pa.) 1906 C. E., Lafayette Coll. June 1906 to Feb. 1924 with Pennsylvania R. R. as follows: June 1906 to Dec. 1912 Rodman, Transitman and Chf. of Party in field and design in office, on maintenance of track and bridges; Dec. 1912 to June 1913 Transitman, maintenance of bridges, inspection and investigation of safety of overhead highway bridges on lines east of Pittsburgh; June 1913 to Feb. 1918 Asst. Supervisor, maintenance of track on four operating divisions; direction in field and of design in office of new work as well as maintenance; Feb. 1918 to Feb. 1924 Master Carpenter, maintenance engineering of bridges and buildings on Pittsburgh Div.; design and execution of considerable new work. *TT 17.6: SP 11.6: P 6: RC 6: D 6.* Feb. 1924 to date Maintenance Engr., Dept. of Public Works, Bureau of Bridges, Allegheny County, Pa., at Pittsburgh, maintenance engineering of county bridges; full charge of field work and office design. *TT 1.3: P 1.3: RC 1.3: D 1.3. TT 18.9: SP 11.6: P 7.3: RC 7.3: D 7.3.* Refers to J. T. Barr, N. F. Brown, V. R. Covell, R. R. Nace, G. Nauman, C. M. Reppert, C. W. Richey.

**556 (1) HENDEE, MYRON**, 324 Crestview Pl., Bogota, N. J. (Age 28. Born Rochester, N. Y.) Has completed extension courses (5 years) in Civ. Eng., Polytechnic Inst. of Brooklyn, N. Y. July 1915 to July 1916 Rodman, Instrumentman, Draftsman and Computer, Topographical Bureau, Borough of Queens, New York City, field and office, establishing street grades, mapping East River water front, and precise mapping of undeveloped sections. *TT 1: SP 1.* July 1916 to Nov. 1917 Computer, Chainman, Lawyers Title Insurance Co., New York City, computing city surveys and land subdivisions. *TT 1.4: SP 1.4.* Nov. 1917 to May 1920 Draftsman, Designer, valuations, with Nicholas S. Hill, Jr., New York City, drafting, designing, valuation computations, inventories, cost studies, etc., water supply, sewage disposal, water and power plant inventories and rate determination, field and office. *TT 2.5: SP 1.5: P 1: RC 1: D 1.5.* May 1920 to July 1923 Draftsman, Designer and Constr. Engr. with Thomas F. Bowe, New York City, on water supply, sewage disposal. *TT 3.1: SP 0.5: P 2.6: RC 2.5: D 1.5.* July 1923 to date in private practice, municipal engineering and surveying, Bogota, N. J., surveys, subdivision into plots and development, street and sewer construction for companies, Boroughs, etc. (street construction completed approx. \$75 000, planned and under construction, approx. \$320 000; sewer construction completed approx. \$130 000, planned and under construction approx. \$50 000). *TT 2: P 2: RC 2: D 2. TT 10: SP 4.4: P 5.6: RC 5.5: D 5.* Refers to A. N. Aeryns, C. L. Bogert, T. F. Bowe, J. F. W. Gebhardt, N. S. Hill, Jr., R. W. Wells.

**557 (3) HERRICK, CLINTON SEYMOUR**, 220 Roosevelt Ave., Syracuse, N. Y. (Age 46. Born Webster, N. Y.) 1899 to 1902 student, Univ. of Rochester special course (1 year) and Syracuse Univ. Civ. Eng. course (2 years). Chainman and Rodman, Chicago & Alton Ry.

(June to Sept. 1899) and Rochester & Sodus Bay Ry. (June to Sept. 1900). June 1901 to Feb. 1902 Chainman and Rodman, Gen. Foreman, concrete masonry, New York Central R. R. *TT 1.8: SP 1.8.* Aug. 1902 to Jan. 1903 Chf. Masonry Inspector, and Jan. to Dec. 1903 Res. Engr., Chicago, Rock Island and Pacific R. R. (Baltimore & Ohio R. R.), on new construction. *TT 1.4: SP 0.4: P 1: RC 1: D 1.* Jan. to Oct. 1904 Locating Engr., B. & O. R. R., on proposed new line, Confluence, Pa., to Wheeling, W. Va. *TT 0.8: P 0.8: RC 0.8: D 0.8.* Oct. 1904 to Jan. 1905 Locating Engr., Bolivian National Rys., original surveys. *TT 0.2: P 0.2: RC 0.2: D 0.2.* Jan. 1905 to March 1906 Field Engr., Archbold-Brady Co. (N. L. & O. Power Co.), location surveys and construction of high-voltage transmission lines. *TT 1.2: P 1.2: RC 1.2: D 1.2.* April 1906 to Sept. 1907 Res. Engr., Lehigh & Lake Erie R. R. (L. Y. R. R.), original construction, double track line in Buffalo and vicinity. *TT 1.5: P 1.5: RC 1.5: D 1.5.* Oct. 1907 to March 1908 Engr., Rosedale Nurseries, estate landscaping. *TT 0.5: P 0.5: RC 0.5: D 0.5.* April to Nov. 1908 Leveler under City Engr., Syracuse, N. Y. *TT 0.7: P 0.7: RC 0.7.* Dec. 1908 to March 1910 Asst. Engr., Bureau of Water, Syracuse, on construction of 30-in. and 42-in. cast-iron pipe conduit line. *TT 1.3: P 1.3: RC 1.3: D 1.3.* April 1910 to Sept. 1911 Asst. Engr. to City Engr., Syracuse, surveys and construction of sidewalks and street grading. *TT 1.5: P 1.5: RC 1.5: D 1.5.* Oct. 1911 to March 1914 Asst. Engr., Intercepting Sewer Board, Syracuse, on construction of main intercepting sewer and Onondaga Creek Improvement. *TT 2.6: P 2.6: RC 2.6: D 2.6.* April 1914 to March 1917 Senior Civ. Engr., Chf. of roadway and track party, Interstate Commerce Comm., Federal Railway valuation. *TT 3: P 3: RC 3: D 3.* April 1917 to May 1918 Asst. Engr. to City Engr., Syracuse, salt lands, street opening and development. *TT 1.2: P 1.2: RC 1.2: D 1.2.* June to Dec. 1918 Constr. Engr., Emergency Fleet Corporation, new electric railway construction. *TT 0.6: P 0.6: RC 0.6: D 0.6.* Jan. 1919 to Jan. 1920 Senior Asst. Engr. to City Engr., Syracuse. *TT 1.1: P 1.1: RC 1.1: D 1.1.* Feb. to March 1920 Valuation Engr., Maryland Elec. Rys., Annapolis, investigation and report on Annapolis Short Line. *TT 0.2: P 0.2: RC 0.2: D 0.2.* April 1920 to Aug. 1922 Senior Asst. Engr. to City Engr., Syracuse, on public service corporation work, railway and telephone rate cases. *TT 1.3: P 1.3: RC 1.3: D 1.3.* Sept. 1922 to Aug. 1923 Asst. to Chf. Engr., Syracuse Grade Crossing Comm., on investigation, plans and reports. *TT 1: P 1: RC 1: D 1.* Sept. 1923 to date Senior Asst. Engr. to City Engr., Syracuse, Erie and Oswego Canal lands, surveys, street openings and excess parcels disposition. *TT 1.7: P 1.7: RC 1.7: D 1.7.* *TT 23.6: SP 2.2: P 2.1.4: RC 21.4: D 20.7.* Refers to J. X. Cohen, G. D. Holmes, T. H. Mather, L. Mitchell, M. B. Palmer, N. F. Pitts, Jr., H. G. Throop.

**558 (13) HILBY, GEORGE ROBERT**, 220 State Capitol, Sacramento, Cal. (Age 35. Born Monterey, Cal.) 1914 A. B., Dept. of Geology and Mining, Stanford Univ. May 1911 to Sept. 1912 Field Asst. on subdivisions, street improvement, sewers and street railway work, and July to Oct. 1914 in charge of field party, under City Engr., Monterey, Cal. *TT 3.7: SP 3.4: P 0.3: RC 0.3.* Oct. to Dec. 1914 Engr. in charge of bridge construction and pile jetties, eleven 108-ft. spans, steel Pratt Truss, pile trestle approaches, concrete piers, under County Surveyor. *TT 0.3: P 0.3: RC 0.3: D 0.1.* Jan. 1915 to May 1916 Asst. to Lou G. Hare, Gen. Contr., bridge, jetty, bank revetment and road construction, surveying, irrigation and drainage work; estimating, designing, surveying, drafting, cost analysis and field supervision. *TT 1.4: P 1.4: RC 1.4: D 0.6.* May 1916 to March 1917 Min. Engr., Nevada Consolidated Copper Co., sampling, assaying, surveying, administration work, design of structures, geological work and estimate of ore reserve. *TT 0.8: P 0.8: RC 0.8: D 0.3.* March to June 1917 Irrigation and Drainage Engr. under Lou G. Hare, Salinas, Cal. *TT 0.3: P 0.3: RC 0.3.* June 1917 to Feb. 1918 and Feb. to July 1919 Draftsman, California Highway Comm. *TT 1.2: SP 1.2.* Feb. 1918 to Feb. 1919 Asst. Maintenance Officer in charge of road repairs, construction, etc.; also Squadron Commander and Supply Officer, U. S. Army. *TT 1: P 1: RC 1.* July 1919 to Feb. 1920 Draftsman, State Dept. of Eng., Flood Control Div., in charge of office; levee and river bank surveys, bank protection, metering, gauging, running flood planes, and hydraulic work. *TT 0.5: P 0.5: RC 0.5.* March 1920 to date Civ. Engr. for State Surveyor General, and (after Jan. 1923) Asst. State Surveyor General; in charge of classification of State lands as to value for mineral, agricultural, timber, grazing and recreational purposes and reservoir and power sites; valuation of mining properties and lands of State; special investigation as to cause of oil on beaches along coast of California; determination of status, location and ownership of school and tide lands, swamp, overflowed and lake lands, etc.; checking surveys and writing descriptions therefor; supervision of various surveys, general administrative and technical work. *TT 5.3: P 5.3: RC 5.3.* *TT 14.5: SP 4.6: P 9.9: RC 9.9: D 1.* Refers to J. C. Boyd, D. R. Cate, J. W. Gross, R. M. Morton, H. D. Severance, A. J. Wagner.



**559 (1) HILLBERG, ALBERT GOSTA**, 154 West 82d St., New York City. (Age 39. Born Gottenburg, Sweden.) 1909 C. E., Chalmers Univ. of Eng., Sweden. May to Sept. 1907 Asst. Engr. laying cables for electric light and power, Dept. of Streets, Gottenburg, Sweden. May to Sept. and Dec. 1908 Asst. to Res. Engr., Dept. of Harbors, Gottenburg, construction of Fish Harbor, and Asst. on design of other harbor works. *TT 2: SP 2.* April to Oct. 1909 post-graduate student, Polytechnic, Zurich, Switzerland. June 1909 to March 1910 Private Asst. to Prof. K. E. Hilgard, Zurich, on hydraulic designs of power plants and dams. *TT 0.8: P 0.8: D 0.8.* April to July 1910 Jun. Draftsman, Public Service Comm., 1st Dist., New York City, on design of pipe galleries for 4th Ave. Subway in Brooklyn. *TT 0.3: P 0.3: D 0.3.* July–Nov. 1910 Structural Draftsman, Midvale Steel Co., Philadelphia, Pa. *TT 0.4: P 0.4: D 0.4.* Dec. 1910 to Nov. 1912 Chf. Draftsman, Mississippi River Power Co., Keokuk, Iowa, design of plant and construction equipment for 300 000-h.p. hydro-electrical development. *TT 2: P 2: RC 2: D 2.* Dec. 1912 to March 1913 Associate Editor in charge of Dept. of Hydraulics and Reinforced Concrete, *Engineering Record*, New York City. *TT 2.3: SP 2.3.* April 1915 to Dec. 1917 Cons. Hydr. Engr., New York City, built small dam in New Jersey; designed and reported on water powers in North Carolina, New Mexico and Norway and reported on condition of Austin, Dam. *TT 2.7: P 2.7: RC 2.7: D 2.7.* Dec. 1917 to April 1918 and Jan. 1919 to Feb. 1921 Res. Engr., Pacific Commercial Co., until April 1918 at New York, and after Jan. 1919 at Manila, Philippine Islands, on technical work in connection with sales of engineering material and designing and supervising reinforced concrete work. *TT 2.5: P 2.5: RC 2.5: D 1.5.* May 1918 to Jan. 1919 Cons. Engr., Chemical Warfare Service, Manila, on design and construction of carbonizing plant for coconut shells. *TT 0.6: P 0.6: D 0.3.* Feb. 1921 to date Contr. Engr., Manila, on reinforced concrete buildings; designed and built Filipinas Bldg., San Miguel Brewery, Royal Soda Water Factory, Fab. de Hielo, Methodist Mission, etc.; preparing design, also Supt. Constr., La Defensa Bldg. for Dominican Corporation, etc. *TT 3.6: P 3.6: RC 3.6: D 3.6.* *TT 17.2: SP 4.3: P 12.9: RC 10.9: D 11.6.* Refers to W. M. Butts, W. T. Chevalier, W. P. Creager, A. Gideon, C. N. Green, C. Herschel, K. E. Hilgard, R. E. Horton, N. C. Johnson, C. W. Larner, E. J. Mehren, F. W. Skinner, E. Wegmann.

**560 (1) HILLMAN, FRANCIS THOMAS**, Care, Winston Bros. Co., Apartado 24, Medellin de Colombia. (Age 42. Born Des Moines, Iowa.) 1901 and 1902 (1 year) student in Science, Highland Park Coll., Des Moines, Iowa. June to Aug. 1901 Rodman and Chainman, and Jan. to Aug. 1906 Instrumentman on railroad location. *TT 1: SP 1.* Sept. to Dec. 1906 Field Draftsman, Great Northern Ry. *TT 0.3: SP 0.3.* Jan. to April 1907 Draftsman, Des Moines-Iowa Falls Interurban Ry. *TT 0.2: SP 0.2.* April to June 1907 Asst. Engr., Okanogan Elec. Ry. Co., making design for station grounds and structures and estimates (road not built). *TT 0.2: P 0.2: D 0.2.* June 1907 to Oct. 1910 with Northern Pacific Ry. Co., until April 1908 as Draftsman, then Res. Engr. in charge of construction in Montana and North Dakota. *TT 3.6: SP 0.9: P 2.7: RC 2.7.* Nov. 1910 to March 1911 Draftsman and Computer on irrigation investigation and survey in State of Washington for Hegardt & Clarke, Cons. Engrs. *TT 0.5: SP 0.5.* March to Sept. 1911 in private practice at Portland, Ore., making surveys of city property, checking designs of reinforced concrete work, etc.; also designed set of forms for heavy reinforced concrete mill building with very heavy floor slabs. *TT 0.5: P 0.5: RC 0.2: D 0.3.* Oct. 1911–June 1915 with McKenzie, Mann & Co. on construction of Canadian Northern Ry. east of Port Arthur, until June 1912 as Res. Engr. and remainder of time Div. Engr.; had charge of revision of location for 3 months, then 42 miles of grading and structures and 103 miles of track-laying and surfacing. *TT 3.8: P 3.8: RC 3.3: D 0.5.* Nov. 1915 to April 1917 Asst. Engr., Minneapolis, St. Paul & Sault Ste. Marie Ry. Co., in charge of construction and maintenance; had charge of construction of 1 200 000-bu. grain elevator and timber ore dock, and design and construction of mine tracks, industrial and yard tracks, etc. *TT 1.5: P 1.5: RC 1.2: D 0.3.* April to July 1917 member of firm, Black & Griffin, Mandan, N. Dak.; made reconnaissance, survey, estimate and report on proposed 60-mile railroad from Dickinson to New Leipzig, N. Dak. *TT 0.2: P 0.2: D 0.2.* Aug. 1917 to Aug. 1920 Asst. Engr., N. P. Ry. Co., first 2 years in charge of construction of 40-mile branch line in Montana, then on special work regarding claims against Federal R. R. Administration. *TT 3: P 3: RC 3: D 0.1.* Aug. 1920 to Dec. 1921 Chf. Engr., Bull Mountain Coal & Realty Co., Eau Claire, Wis., investigating coal lands and locating and designing structures for 16-mile railway in Montana. *TT 1.2: P 1.2: RC 0.6: D 0.6.* July 1922 to April 1923 Chf. of Party, U. S. Bureau of Public Roads, located and designed 11 miles of mountain road in Montana, and then in charge of revision of location and design and construction of two projects in Idaho. *TT 0.7: P 0.7: RC 0.4: D 0.3.* April 1923 to Sept. 1924 with North Dakota State Highway Comm., until March 1924 as Office and Bridge Engr., then Constr. and Bridge Engr.; rewrote standard specifications and had

charge of redesigning standard concrete bridges, also several special bridges including 612-ft. cantilever structure over Red River; also in charge of construction of same; during season of 1924 in charge of all construction. *TT 1.5: P 1.5: RC 0.6: D 0.9.* Sept. 1924 to date with Winston Bros. Co. of Minneapolis, Minn., on railroad work in South America; at present in charge of location in mountain country in Colombia. *TT 0.5: P 0.5: RC 0.3: D 0.2.* *TT 18.7: SP 2.9: P 15.8: RC 12.3: D 3.6.* Refers to W. G. Black, E. R. Griffin, V. R. Irvine, W. P. Linton, S. R. Sharts, H. E. Stevens, P. E. Thian.

**561 (7) HIRST, ARTHUR RASCO**, 324 North Pinckney St., Madison, Wis. (Age 44. Born Elmont, N. Y.) 1902 B. S. in Civ. Eng., Md. Agri. Coll. (now Univ. of Md.) 1922 D. E., Univ. of Md. Sept. to Oct. 1902 Rodman, and Oct. 1902 to Jan. 1903 Chainman, Pennsylvania R. R. *TT 2.4: SP 2.4.* Jan. 1903 to Dec. 1904 Instrumentman and Chf. of Party, and Jan. 1905 to May 1907 Engr. of surveys and plans Highway Div., Geological Survey. *TT 4.4: SP 1: P 3.4: RC 2.5: D 0.9.* May to Aug. 1907 Engr. of Construction, Illinois Highway Comm. *TT 0.3: P 0.3: RC 0.3.* Aug. 1907 to Aug. 1912 State Highway Engr., in charge of surveys and construction, Highway Div., Wisconsin Geological and Natural History Survey. *TT 5: P 5: RC 3: D 2.* Aug. 1912 to June 1924 with Wisconsin Highway Comm., until Aug. 1913 as Acting State Highway Engr.; Executive in charge of all operations; then State Highway Engr. (Chf. Engr. of the Comm.); Engr. Executive in charge of all operations of the State Highway Dept. *TT 11.7: P 11.7: RC 11.7.* Oct. 1924 to date Chf. Engr., American Vibrolithic Corporation of Des Moines, Iowa, in charge of all engineering and construction. *TT 0.6: P 0.6: RC 0.6.* *TT 24.5: SP 3.4: P 21.1: RC 18.1: D 2.9.* Refers to A. N. Johnson, H. J. Kuelling, L. R. MacKenzie, A. Marston, C. Older, F. E. Turneure.

**562 (2) HOADLEY, ANTHONY de HOTHLEGH**, 48 Shepard St., Cambridge, Mass. (Age 24. Born Swarthmore, Pa.) 1923 B. S. in C. E., Union Coll. 1923 to 1924 Instructor, Union Coll. 1924 to date graduate student, Massachusetts Inst. of Technology. *TT 3.6: SP 3.6.* Refers to H. K. Barrows, J. W. Ledoux, F. P. McKibben, C. M. Spofford, C. H. Sutherland, W. C. Taylor, S. H. Widdicombe.

**563 (11) HOFFMAN, RALPH AUSTIN**, 1243 E. McDowell, Phoenix, Ariz. (Age 31. Born Linwood, Nebr.) 1914 to 1917 (3 years) student, Univ. of Oklahoma. March 1918 to Jan. 1919 Draftsman, and Jan. 1919 to Jan. 1921 Bridge Draftsman, Asst. to Bridge Engr., making designs and details of bridges, buildings and other structures, Arizona Highway Dept. *TT 2.7: D 2.* Jan. 1921 to Jan. 1923 Engr., Maricopa County Highway Comm., in charge of design and inspection of concrete bridges and culverts. *TT 2: RC 2: D 2.* Jan. 1923 to date Bridge Engr., Arizona Highway Dept., in charge of design and construction of bridges and structures; design of steel and concrete bridges. *TT 2.2: RC 2.2: D 2.2.* *TT 6.9: RC 4.2: D 6.2.* Refers to F. R. Goodman, C. S. Jarvis, W. W. Lane, L. C. Lashmet, R. V. Leeson, G. L. McLane, C. C. Small.

**564 (1) HOPPER, JAMES SPENCER**, 6 Manheim Rd., Essex Fells, N. J. (Age 20. Born Montclair, N. J.) Aug. 1920 to June 1922 Rodman, Transitman, Inspector and Chf. of Party, July 1922 to April 1923 Transitman and Chf. of Party, and July to Sept. 1923 Transitman, Eng. Dept., Town of Montclair, N. J. *TT 2.7: SP 2.7.* April to June 1923 Transitman and Chf. of Party, United Fruit Co., Santa Marta, Colombia. *TT 0.2: SP 0.2.* Sept. to Dec. 1923 Timber Scaler, Camp Clerk, Timekeeper and Storekeeper, Hollingsworth & Whitney Lumber Co., Tarratine, Me. *TT 0.2: SP 0.2.* Dec. 1923 to July 1924 Asst. Location Engr. on railroad, Atlantic Fruit Co., Cayo Mambi, Oriente, Cuba. *TT 0.6: SP 0.6.* Aug. 1924 to Jan. 1925 Form Checker and Extra Foreman, Booth & Flynn Co., on Hudson River Vehicular Tunnel. *TT 0.4: SP 0.4.* Feb. to April 1925 Asst. Surveyor and Computer with J. B. Acocella, Civ. Engr. and Surveyor. *TT 0.2: SP 0.2.* April 1925 to date Jun. Engr., tunnel surveys and Concrete Inspector, New York State Bridge and Tunnel Comm. and New Jersey Interstate Bridge and Tunnel Comm. *TT 0.2: SP 0.2.* *TT 4.3: SP 4.3.* Refers to M. I. Killmer, H. L. King, G. E. Lund, J. Mechanic, W. H. Warnock.

**565 (7) HUMMER, JOHN WILLIAM**, 436 West Eighth St., Davenport, Iowa. (Age 22. Born Iowa City, Iowa.) 1924 B. E., and 1925 M. S., State Univ. of Iowa. June 1924 to June 1925 Research Asst., Dept. of Mechanics and Hydraulics, State Univ. of Iowa. June 1925 to date Asst. in Appraisal Dept., United Light & Power Co. *TT 3: SP 3.* Refers to B. P. Fleming, R. B. Kittredge, B. J. Lambert, F. A. Nagler, W. G. Raymond, S. M. Woodward, D. L. Yarnell.

**566 (10) HUNTER, RALPH WALDO**, 105 Hyde Park Pl., Tampa, Fla. (Age 43. Born Topeka, Kans.) Oct. to Nov. 1902 Axeman, Nov. 1902 to May 1903 Rodman, and May 1903 to Feb. 1904 Masonry Inspector on construction, Louisville & Nashville R. R. Co.

*TT 1.2: SP 1.2.* Feb. to April 1904 Surveyor with J. B. Cross, on subdivision, Dossett, Tenn. *TT 0.2: P 0.2: RC 0.2: D 0.2.* April 1904 to Nov. 1914 with L. & N. R. Co., as follows: April to June 1904 Rodman; June 1904 to July 1905 Masonry Inspector and Instrumentman, and July to Nov. 1905 Asst. Res. Engr., grade reduction and tunnel work in Tennessee; Nov. 1905 to May 1906 Instrumentman, and May 1906 to Oct. 1909 Asst. Res. Engr., construction, M. H. & E. R. R., Western Kentucky; Oct. 1909 to Nov. 1914 Res. Engr. finishing this construction, siding, station grounds, slides, etc. (50 miles); reduction of grades, Henderson Div. (10 miles); second track and grade reduction, Kentucky Div. (10 miles); new line construction, Lewisburg & Northern R. R. (15 miles); reinforced concrete multiple floor wharf, Danville, Tenn. *TT 10.7: SP 5.6: P 5.1: RC 5.1.* Nov. 1914 to Oct. 1915 Highway Engr., Lincoln County, Tenn. *TT 0.9: P 0.9: RC 0.9: D 0.9.* Oct. 1915 to July 1916 Supt., Charleston Eng. & Contr. Co., on construction of piers and approaches, Southern Air Line R. R. bridges, Stone River, Johns Islands, S. C. *TT 0.8: P 0.8: RC 0.8.* Aug. 1916 to Sept. 1917 Valuation Pilot, L. & N. R. R., preliminary examination of property securing data for R. R. Co.'s estimate of valuation and Representative of R. R. Co. with Interstate Commerce Comm. field party. *TT 1.1: P 1.1: RC 1.1.* Oct. 1917 to Oct. 1920 Engr., Reserve Corps, U. S. Army, on active duty as 1st Lieut., then Capt., in training camp in United States (3 months), with troops overseas (1½ years), Asst. Utilities Officer at Newport News and Camp Eustis, Va. (1¼ years). *TT 3: P 3: RC 0.7: D 0.1.* Oct. 1920 to March 1921 Supt. of Streets, and March 1921 to July 1922 Director of Public Works, City of Newport News, Va. *TT 1.7: P 1.7: RC 1.7: D 1.3.* July 1922 to Feb. 1923 Supt., Noland-Clifford Co. of Newport News, on installation of outside utilities and mechanical equipment at U. S. Veterans Hospital, Tuskegee, Ala. *TT 0.6: P 0.6: RC 0.6.* Feb. 1923 to Nov. 1924 with Atlantic Coast Line R. R., until April 1923 as Locating Engr. on relocation of part of Ft. Myers Southern R. R. (Fla.), then Div. Engr. in charge of construction work on 1st Div. at Florence, S. C. *TT 1.7: P 1.7: RC 1.7.* Nov. 1924 to date Supt. of Constr. with G. F. Young, Civ. and Landscape Engr., St. Petersburg, Fla., Davis Islands dredging development in Hillsboro Bay at Tampa, Fla. *TT 0.4: P 0.4: RC 0.4. TT 22.3: SP 6.8: P 15.5: RC 13.2: D 2.6.* Refers to C. H. Blackman, W. H. Courtenay, L. L. Morton, G. L. Smith, B. Thompson, J. E. Willoughby.

**567 (13) ILLERICH, OTTOMAR THEODORE**, 1442 E. 36th St., Oakland, Cal. (Age 29. Born Forest Park, Ill.) Student, Lewis Inst. of Eng. Evening School (7 years), Chicago Technical Coll. (1 year), Univ. of California Extension Div. (1 year) and Univ. of Wisconsin Extension Div. 1911 to 1916 surveying, electrical and architectural drafting, tracing and blue printing. *TT 4.6: SP 4.6.* April 1916 to April 1917 Valuation Draftsman, Chicago & North Western R. R. Co. *TT 1: P 1.* April to Sept. 1917 Structural Steel Detailer, Mead Morrison Mfg. Co., Chicago, Ill., on coal-handling plant of Bethlehem Steel Co., Sparrows Point, Md. *TT 0.5: P 0.5.* Sept. 1917 to March 1918 Structural Detailer on Emergency Fleet Corporation fabricated ships, also loft work, Wisconsin Bridge & Iron Works, Savannah, Ga. *TT 0.5: P 0.5.* May 1918 to May 1919 Private, Co. D, 103d Engrs., 28th Div., A. E. F., in France; Reconnaissance Squad, trench mapping, etc.; also in Demolition Squad. *TT 1: SP 1.* Aug. 1919 to June 1920 with Universal Portland Cement Co., Chicago, as Structural Steel Detailer, plant alterations and additions, later on checking, design and as Squad Boss. *TT 0.9: P 0.9: D 0.2.* Nov. 1921-March 1922 Eng. Draftsman on buildings and structures, Architectural Dept., Southern Pacific R. R. Co., San Francisco, Cal. *TT 0.4: P 0.4.* April-June 1922 with Key System Transportation Co. of Oakland, Cal., as Asst. in planning proposed Goat Island Terminal and Bridge Approach; prepared maps, studies and report. *TT 0.3: P 0.3.* July to Nov. 1922 Structural Steel Designer on oil-refining apparatus structures, buildings, etc., in charge of detailers, Shell Oil Co. of California, at San Francisco. *TT 0.4: P 0.4: D 0.4.* Nov. 1922-Jan. 1923 with Williams & Wood, San Francisco, as Structural Steel Detailer, detailing and checking set of steel fabrication drawings for U. S. Govt. steel dump scow for Manila, Philippine Islands. *TT 0.2: P 0.2: RC 0.2.* March to May 1923 Structural Steel Detailer with Clarence E. Seage, San Francisco, on detailing and checking of shop details for seven high school and two shop buildings and a refrigerator and ice conveyor building. *TT 0.2: P 0.2.* June to July 1923 in private practice as Structural Engr. at Oakland, on shop details for iron works. *TT 0.2: P 0.2: RC 0.2.* July 1923 to date Structural Engr., Eng. Dept., San Francisco, preparing design drawings and checking fabricator's details of steel transmission line towers; bus-bar structures, power house, concrete tower footings and forms for Hetch Hetchy Project. *TT 1.8: P 1.8: RC 1.8: D 1.8.* *TT 12: SP 6.6: P 5.4: RC 2.2: D 2.4.* Refers to M. J. Callaghan, N. A. Eckart, L. H. Nishkian, M. M. O'Shaughnessy, C. E. Seage, L. W. Stocker, B. R. Wood.

**568 (12) INGRAM, FRED**, Monroe, Ore. (Age 26. Born Monroe, Ore.) 1925 B. S. in C. E., Ore. Agri. Coll. June to Sept. 1919 Chainman, Rodman and Computor, State Highway Dept., Oregon. June to Nov. 1920 Rodman and Levelman, Harney Valley Irrigation Dist., with Baar & Cunningham. June to Sept. 1921 Paving Inspector on Pacific Highway. March to Nov. 1922 Rodman and Transitman, April to Oct. 1923 Transitman and Chf. of Party, and June to Sept. 1924 Chf. of Party, on transmission lines, California-Oregon Power Co. *TT 3.7: SP 3.5: P 0.2.* Refers to J. W. Cunningham, G. C. Mason, B. S. Morrow, J. F. Partridge, S. H. Simms, E. G. Waters.

**569 (10) JACKMAN, ANDREW WILLIAM**, Care, Southern Steel & Rolling Mill, Birmingham, Ala. (Age 48. Born Syracuse, N. Y.) Sept. 1901 commissioned Second Lieut. of Artillery, U. S. Army; 1902-1905 Instructor in Seacoast Eng. and Asst. Instructor in Electricity at Jackson Barracks, La. 1905-1907 First Asst. Engr. in charge of submarine defenses of Southern Artillery Dist. of New York. *TT 5.6: P 5.6.* July and Aug. 1912 Asst. Engr. and Inspector, Louisiana State Board of Engrs., on closing of Hymelia Crevasse. *TT 0.2: P 0.2: RC 0.2.* Aug. 1912 to March 1913 Supt. of Constr. for Doullut & Williams, Civ. Engrs. and Gen. Contrs., in charge of construction of dock (about \$75 000) at Baton Rouge, La., for Standard Oil Co. *TT 0.7: P 0.7: RC 0.7.* May 1913 to Sept. 1915 Gen. Supt. for Doullut & Williams in charge of bank protection (approx. \$1 000 000) on Red River for Caddo Levee Board. *TT 2.4: P 2.4: RC 2.4.* April 1916 to April 1919 Constr. Quartermaster, U. S. Army, in charge of all construction, including buildings, sewers, etc., at Camp Eagle Pass, Tex. *TT 3: P 3: RC 3.* April 1919 to May 1920 Supt. of Constr. for Jahncke Dry Dock & Ship Repair Co., New Orleans, La., in charge of wharf construction. *TT 1.1: P 1.1: RC 1.1.* May 1920 to March 1923 in private practice as Contr., contracts handled include warehouse for Union Petroleum Co., Westwego, La., levee for State Board of Engrs. at Krotz Springs, Harvey, and Gouldsboro, La., road for Louisiana Highway Dept. between Chef Menten and Rigolets, La. *TT 2.8: P 2.8: RC 2.8.* March 1923 to March 1925 on quantity survey work for numerous contractors. *TT 2: P 2: RC 2.* March 1925 to date Engr., Southern Steel & Rolling Mill, Inc. *TT 0.2: P 0.2: D 0.2. TT 17.9: P 17.9: RC 12.2: D 0.2.* Refers to A. T. Dusenbury, S. F. Lewis, O. K. Olsen, A. M. Shaw, S. M. Young.

**570 (13) JERAULD, HENRY FRANKLIN**, 1571 Thirty-fourth St., Sacramento, Cal. (Age 25. Born Newport, Ky.) 1925 B. S., Ore. State Agri. Coll. June to Sept. 1918 Axeman and Rodman and Feb. to Oct. 1919 Timekeeper, California Highway Comm. *TT 1: SP 1.* June 1920 to Jan. 1921 Asst. Engr., reapportionment of reclamation district assessment (9 000 acres), reapportionment and retracement of areas, with J. W. Gross, Mun. and Reclamation Engr., Sacramento, Cal. *TT 0.5: SP 0.5.* June 1921 to Oct. 1922 Asst. Engr. with J. W. Gross on hydraulic investigation and underground water survey for irrigation project (June 1921 to Feb. 1922), in charge of installation of 30 miles of steel pressure lines for irrigation system (Feb. to July 1922), and mapping and analysis of abstracts for determination of water rights for irrigation project (July to Oct. 1922). *TT 1.3: P 1.3: RC 0.7.* March to Sept. 1923 and June to Sept. 1924 Asst. Engr. and Chf. of Party with J. W. Gross, until Sept. 1923 on subdivision surveys and hydraulic studies on use of water, and after June 1924 on subdivision surveys and preliminary location of gravity irrigation system for 5 000 acres. *TT 0.9: P 0.9.* March 1925 to date Asst. Engr. on engineering reports on irrigation projects and districts for J. W. Gross. *TT 0.2: P 0.2. TT 3.9: SP 1.5: P 2.4: RC 0.7.* Refers to A. Givan, J. W. Gross, S. A. Hart, N. Silsbee, R. H. Stalnaker, W. E. Stoddard, A. J. Wagner.

**571 (12) JOHNSON, BERKELEY**, 615 Idaho Bldg., Boise, Idaho. (Age 29. Born Waltham, Mass.) 1916 Ph. B., Sheffield Sci. School. 1920 C. E., Cornell Univ. June to Sept. of years 1913-1915 Transitman for Herbert A. Pratt, Engr., Worcester, Mass. July to Sept. 1917 with U. S. Coast and Geodetic Survey on current observations in Long Island Sound. *TT 2.2: SP 2.2.* March 1920 to Jan. 1921 Hydrographer, Twin Falls North Side Land & Water Co., Jerome, Idaho, rating flow in streams and canals. *TT 0.8: P 0.8.* March 1921 to date Field Asst. to Jun. Engr. to Asst. Engr., U. S. Geological Survey, in connection with investigations leading to economic development and use of surface waters; made measurements of flow of streams, computations, etc., in preparation of field data for reports; since Aug. 1923 Prin. Asst. in Boise (Idaho) office. *TT 4.1: P 4.1: RC 1.7. TT 7.1: SP 2.2: P 4.9: RC 1.7.* Refers to G. C. Baldwin, L. Crandall, E. B. Darlington, N. C. Grover, J. C. Hoyt, C. G. Paulsen, J. B. Stocking.

**572 (13) JONES, GERALD HENRY**, 627 Forum Bldg., Sacramento, Cal. (Age 33. Born San Francisco, Cal.) Aug. to Nov. 1911 Chainman, U. S. G. L. O., sectionizing Smoke Creek Desert in Nevada. *TT 0.3: SP 0.3.* Jan. to Dec. 1912 Chainman on Irrigation Surveys.



Brentwood, Cal. *TT 1: SP 1.* Jan. 1913 to April 1914 Instrumentman and Chf. of Party on surveys and construction of East Contra Costa Irrigation Project at Brentwood, for Balfour Guthrie Co. *TT 1.3: SP 1.3.* April to Dec. 1914 Instrumentman, Salmon Creek Dam, Alaska Gastineau Min. Co., Juneau, Alaska. *TT 0.6: SP 0.6.* May 1915 to Sept. 1916 Concrete Inspector, California Highway Comm., in Sacramento Div. *TT 1.3: SP 1.3.* Sept. 1916 to March 1920 Field Chf., San Pablo Project, East Bay Water Co., Oakland, Cal., on construction of dam, tunnels and filtration plant; responsible for surveys, estimates, tunnel and shaft alignment, ground layouts and quantities; did some designing on tunnel sections in bad ground. *TT 3.6: P 3.6: RC 3.6.* March 1920 to Sept. 1922 with A. Kempkey Cons. Engr., on miscellaneous surveys and investigations for water-works and irrigation, on Lone Tree Irrigation Dist., Napa City Water Works, Palermo Irrigation Dist. and some construction work on irrigation development at Brentwood. *TT 2.2: P 2.2.* Sept. 1922 to Aug. 1924 with City of Napa, as Res. Engr. on construction of Milliken Canyon Dam and Pipe Line, Napa, in responsible charge of entire project; did considerable designing on plant layout, quarry and construction equipment. *TT 2: P 2: RC 2.* Sept. 1924 to date Hydr. Engr., California Dept. of Public Works, Div. of Eng. and Irrigation, on water resource investigations, estimates and design of proposed irrigation development. At various times has also done considerable designing. *TT 0.7: P 0.7. TT 13: SP 4.5: P 3.5: RC 5.6.* Refers to D. W. Albert, P. Bailey, G. W. Hawley, P. F. Jones, A. Kempkey, H. G. Porter, G. Wilhelm.

**573 (1) KANE, LAURENCE JOSEPH**, 3320 Ft. Independence St., New York City. (Age 25. Born New York City.) 1925 C. E., Columbia School of Eng. *TT 2: SP 2.* Refers to A. H. Beyer, J. K. Finch, W. J. Krefeld, E. B. Lovell, C. R. Wyckoff.

**574 (1) KAUFMAN, MORRIS LEWIS**, 469 Seventh Ave., New York City. (Age 35. Born Brooklyn, N. Y.) 1912 C. E., Cornell Univ. June to Oct. 1912 Jun. Engr., Public Service Comm., New York; Field Engr., Lexington Ave. Subway, Sec. 10. *TT 2.3: SP 2.3.* Oct. 1912 to Sept. 1915 with W. M. Torrance, Cons. Engr., as Asst. Supt. on railroad bridge, Oswego (5 months); Supt. on asphalt plant, Brooklyn (5 months); in charge of design of phosphate plants, Florida (8 months); Designer in New York office on general work, including Butler St. Viaduct, Wilkes-Barre, Pa. (8 months); preliminary design on bulkhead and water front work, Pacific Coast (9 months). *TT 2.9: SP 0.4: P 2.5: RC 0.4: D 2.1.* Sept. 1915 to Dec. 1918 with J. H. Wallace & Co., New York City, as Designer on sulphuric acid plants, sulphite and board mill, and hydraulic development (13 months); Designer on sulphite mill at Smooth Rock Falls, Ont., Canada (6 months); in charge of construction of sulphate mill, Portsmouth, Va. (9 months); Designer and Constr. Engr., Area E, U. S. Explosives Plant C, Nitro, W. Va. (11 months). *TT 3.2: SP 2: P 1.2: RC 1.2.* Jan. 1919 to date in private practice as Cons. Engr., until Feb. 1923 in partnership with Harold J. Levine on railroad valuation and construction work on Wharton & Northern R. R., New Jersey, and since then designed and supervised construction of office and loft buildings, apartment houses, garages, moving picture theatres, molasses distributing plants at Montreal in British West Indies, Columbus, Savannah, Rome, etc. *TT 6.3: P 6.3: RC 6.3: D 2.3. TT 14.8: SP 4.7: P 10.1: RC 8: D 4.4.* Refers to C. L. Barton, L. McHarg, D. C. Serber, J. S. Swindells, J. H. Wallace.

**575 (1) KEIM, PAUL FERDINAND**, 4552 Fountain Ave., Hollywood, Cal. (Age 23. Born Falls City, Nebr.) 1925 B. S., Civ. Eng. course, Univ. of Cal. June to Aug. of years 1921-1924 Asst., Haverty Co., Los Angeles, Cal., on ditching work for Temple St. Sewer. *TT 2: SP 2.* Refers to R. E. Davis, C. Derleth, Jr., B. A. Etcheverry, C. G. Hyde, G. E. Troxell.

**576 (1) KELCEY, GEORGE GUY**, 844 Cross Ave., Elizabeth, N. J. (Age 36. Born Dunchurch, Ont., Canada.) 1914 B. S. M. E., Carnegie Inst. Tech. 1907 to 1908 Chairman, Instrumentman, in charge of field party, City Engr.'s office, Lackawanna (then West Seneca), N. Y., on installation of sewer system and sewage-disposal plant. *TT 3: SP 3.* 1914 to 1917 Asst. and Acting Mgr., Mortgage Dept., People's Savings & Trust Co., Pittsburgh; Pittsburgh Office, E. W. Clark & Co., Philadelphia, Public Utility Operators and Financiers; Bond Sales and Acting Mgr. of Pittsburgh Branch, Financial Dept. 1917 to 1919 Bombing Pilot and Engr. Pilot, U. S. Air Service. *TT 1.8: SP 1.2: P 0.6: RC 0.4.* 1919 to 1920 with Rush Machinery Co., Pittsburgh, engineering and industrial applications and development gas welding and cutting apparatus, electric arc, butt, spot and seam welding equipment; some work with turbines, boilers, power blowers and exhaust equipment. *TT 1.5: P 1.5.* 1920 to date Mgr., Traffic Eng. Div., American Gas Accumulator Co., Elizabeth, N. J., development of signals for highway and traffic signaling, some work with marine and aviation signaling; organization and training of corps of engineers for traffic work in cities and on highways.

traffic surveys of cities, counties, state highway systems, traffic problem studies, accident analysis and prevention, and development of code of practice to simplify treatment of traffic conditions. *TT 5: P 5: RC 5: D 5. TT 11.3: SP 4.2: P 7.1: RC 5.4: D 5.* Refers to J. L. Bauer, A. H. Blanchard, W. H. Buente, T. E. Collins, T. W. Dix, E. E. Duff, Jr., C. G. Dunnells, M. O. Eldridge, W. K. Hatt, G. H. Herrold, R. F. Kelker, Jr., J. F. Laboon, W. E. Mott, T. D. Pratt, P. D. Sargent, C. B. Stanton, H. R. Thayer, C. M. Upham.

**577 (1) KIDD, GEORGE FREDERICK**, 61 Hollywood Ave., East Orange, N. J. (Age 51. Born Chelsea, Mass.) 1898 M. E., Stevens Inst. Tech. 1898 to 1899 and 1902 to 1903 Elec. Instrument Tester, Bristol Co., Waterbury, Conn. *TT 4: SP 4.* 1900 to 1902 Elec. Machinery Tester, Gen. Elec. Co., Schenectady, N. Y. *TT 2.2: SP 2.2.* 1903 to 1905 Mech. and Structural Designer in charge of drafting room, Western Eng. & Constr. Co., San Francisco, Cal., placer gold dredgers and mines. *TT 2: SP 2.* 1906 Structural Designer, beet sugar mill, Pacific Sugar Constr. Co., Hamilton City, Cal. *TT 0.5: SP 0.5.* 1907 Structural Designer, Portland cement mill, Standard Portland Cement Co., Napa Junction, Cal. *TT 0.5: SP 0.5.* 1908 to 1909 Elec. Machinist, U. S. Navy Yard, Vallejo, Cal., installation of wireless telegraph stations. *TT 1: SP 1.* 1909 to 1910 Structural and Mech. Designer, U. S. Navy Yard, Portsmouth, N. H., in Civ. Engr.'s Dept., on design and construction of shops, hospital, prison, power plant, docks, bridges, etc. *TT 1.5: SP 1.5.* 1911 to 1915 Structural Designer on large power stations, New York Edison Co. *TT 4.7: P 4.7: RC 4.7: D 4.7.* 1916 to 1917 Structural and Mech. Designer on power stations and industrial buildings, W. S. Barstow & Co., New York City; Asst. Chf. Draftsman. *TT 1.2: P 1.2: RC 1.2: D 1.2.* 1917 Structural and Mech. Designer, copper refinery, Nichols Copper Co., Laurel Hill, Long Island City, N. Y. (6 months) and chemical works, Butterworth-Judson Corporation, Newark, N. J. (6 months). *TT 1: P 1: RC 1: D 1.* 1918 to 1920 Engr. of Design and Constr. and Works Maintenance, Crocker-Wheeler Co., Ampere, N. J., in charge of design and construction of power house. *TT 2.3: P 2.3: RC 2.3: D 2.3.* 1920 to 1921 Constr. Engr. in charge of construction of power house, Chas. Pfizer & Co., Inc., Brooklyn, N. Y. *TT 0.7: P 0.7: RC 0.7: D 0.7.* 1921 Appraiser on properties of Consolidated Gas Co., New York City, in charge of Bartlett, Hayward & Co. *TT 0.5: P 0.5.* 1921 to 1925 Bridge Designer on bridges for State highways of New Jersey, New Jersey State Highway Comm., Trenton, N. J. *TT 3.3: P 3.3: RC 3.3: D 3.3.* 1925 Constr. Engr. in charge of construction of 7-story chemical manufacturing building, Chas. Pfizer & Co. *TT 0.1: P 0.1: RC 0.1. TT 25.5: SP 11.7: P 13.8: RC 13.3: D 13.2.* Refers to R. M. Beck, C. S. Bissell, A. Blair, C. B. Grady, F. A. Holby, C. A. Mead, E. M. Van Norden.

**578 (10) KING, CLAYTON LANDIS**, Ft. Myers, Fla. (Age 29. Born Wilmington, N. C.) 1918 B. S., Tri State Coll. of Eng., Ind. May 1918 to June 1919 Chf. Observer, mapping, etc., U. S. Army Engr. Corps, 323d Regimental Intelligence Personnel, after June 1918 overseas. *TT 3.1: RC 1.1.* Aug. 1919 to July 1920 Transitman and Field Asst., highway location, July 1920 to Nov. 1921 Locating Engr., and Nov. 1921 to Nov. 1922 Res. Engr. on construction, North Carolina State Highway Comm. *TT 3.5: RC 2.4.* Nov. 1922 to May 1923 Student, completed post-graduate course in Eng. and Public Administration, N. Y. Bureau of Municipal Research; also post-graduate work at Columbia Univ. in Political Science and Eng. Administration. *TT 0.6.* May 1923 to Dec. 1924 Asst. Res. Engr. on construction, and Dec. 1924 to June 1925 Asst. City Mgr. and Purchasing Agt., City of Bluefield, W. Va. At present Res. Engr. on \$1 000 000 construction program, Ft. Myers, Fla. *TT 0.6: RC 0.6. TT 9.3: RC 5.7.* Refers to E. C. Barton, W. A. Bassett, G. T. Macnab, C. E. Ridley, H. C. Scott, R. E. Snowden, D. Ulrich.

**579 (15) KING, HERBERT CLINTON**, 507 East 16th St., Okmulgee, Okla. (Age 38. Born Charlottesville, Va.) Dec. 1909 to Sept. 1910 Engr. and Supt., Strange & Maguire Paving Co. *TT 0.9: SP 0.5: P 0.4: RC 0.4.* Sept. 1910 to 1913 with Utah Constr. Co., in charge of bridge work in Nevada and California, railroad construction in Utah. *TT 2.6: SP 0.6: P 2: RC 0.7: D 0.2.* 1913 to 1914 with Oregon Short Line R. R. Co. as Asst. to Chf. Engr. of construction of Oregon & Eastern Ry. *TT 0.8: SP 0.2: P 0.6: RC 0.6.* May to Dec. 1914 with G. A. Heman Constr. Co., in charge of paving and architectural work at Salt Lake City. *TT 0.6: P 0.6: RC 0.5: D 0.1.* Jan. to May 1915 Estimator and Constr. Engr. on sewer construction, Gibson Constr. Co. *TT 0.4: P 0.4: RC 0.4.* June 1915 to July 1916 Office Engr. and in charge of dredge plant, Watts & Ammerman Co. *TT 1.1: SP 1.1.* July 1916 to Jan. 1917 Engr. in charge of construction of 1 000 000-bu. grain storage elevator and mill design, Lehrack Eng. Co. *TT 0.5: SP 0.3: P 0.2: D 0.2.* Jan. to Aug. 1917 Engr. in charge of construction of mill and grain elevators, G. B. R. Smith Milling Co. *TT 0.6: P 0.6: RC 0.6.* Aug. 1917 to May 1919 with U. S. Army, A. E. F., as

Instructor in mapping and elementary surveying. Officer in charge of mapping and surveys of Artillery Brigade. *TT 1.8: SP 1.8.* June 1920 to June 1922 with Smith, Rea, Lovitt & Senter as Engr. in charge of \$2 500 000 worth of construction, schools, office buildings and churches. *TT 1.9: P 1.9: RC 1.9.* June 1922 to date in charge of public improvements, bridges, paving, drainage and grading involving expenditure of \$4 000 000, Okmulgee County, Okla. *TT 3: P 3: RC 2: D 1. TT 14.3: SP 4.6: P 9.7: RC 7.1: D 1.5.* Refers to J. H. Byrd, T. P. Clonts, G. C. Dobson, D. W. Patton, T. P. Paxton, H. C. Smith.

**580 (2) KING, MAXON HORACE**, 78 Lawnwood Ave., Longmeadow, Mass. (Age 22. Born Springfield, Mass.) 1925 S. B., Mass. Inst. Tech. June to Sept. 1924 Inspector of concrete highway construction, Erie County, N. Y. *TT 2: SP 2.* Refers to J. B. Babcock, 3d, H. K. Barrows, H. L. Bowman, C. B. Breed, W. M. Fife, C. M. Spofford, C. H. Sutherland.

**581 (14) KNOTT, VIRGIL PROCTOR**, 407 Southern Trust, Little Rock, Ark. (Age 42. Born Bentonville, Ark.) 1904 B. C. E., Coll. of Eng., Univ. of Ark. April 1902 to Jan. 1903 Rodman and Instrumentman, Ft. Smith & Western R. R. *TT 2.8: SP 2.8.* April to Sept. 1903 Instrumentman, El Dorado & Bastrop R. R. *TT 0.4: SP 0.4.* Sept. 1904 to March 1919 at Univ. of Arkansas, until July 1906 as Instructor in Civ. Eng.; then (4 years) Asst. Prof. of Civ. Eng., teaching surveying, drafting, designing and testing materials; and after July 1910 Associate Prof. of Civ. Eng. teaching surveying, mechanics of engineering, design, etc., and after Sept. 1915 also hydraulics. June to Sept. 1916 Associate Engr. with White, Humphreys & Tovey, Pine Bluff, Ark., on highway, municipal and drainage work; made plans and specifications and supervised various projects (cost \$100 000). June to Sept. 1917 Office Engr., Stewart-McGehee Constr. Co., at Camp Beauregard, La., on design of water system, railroad, grounds, sewers, etc., and part of time in field on supervision of construction. During vacations and spare time also on private work, surveying and engineering; designed and supervised work costing over \$100 000, such as highway bridges, paving, etc. *TT 15.7: P 15.7: RC 12.1: D 3.6.* April 1919 to July 1921 State Highway Engr. of Arkansas, had charge of all State and Federal Aid projects (\$30 000 000 expended on construction). *TT 2.3: P 2.3: RC 2.3.* July 1921 to date in private practice, consulting civil engineering work, mostly as engineer for special improvement districts; designed and supervised construction of over \$650 000 worth of sewer, paving, drainage and other work in and near Little Rock, Ark. *TT 2.8: P 3.8: RC 3.8. TT 25: SP 3.2: P 21.8: RC 18.2: D 3.6.* Refers to F. Bennett, A. C. Butterworth, V. H. Cochrane, C. J. Eld, Jr., R. J. Middleton, J. H. Rice, E. A. Steece, G. A. Watkins, G. S. Williams.

**582 (6) KNUTSON, LEIF**, P. O. Box 32, North Side Station, Youngstown, Ohio. (Age 29. Born Bergen, Norway.) May 1918 to Feb. 1920 Draftsman, later Asst. Engr., Peter Lind & Co., Reinforced Concrete Engrs. and Contrs., Westminster, England. *TT 1.7: P 1.7: D 1.5.* Feb. to April 1920 Designing Engr., The Trussed Concrete Steel Co., Ltd., London, England, on design of industrial buildings and reinforced concrete bridges. *TT 0.2: P 0.2: D 0.2.* May 1920 to April 1922 Res. Engr. in responsible charge of reinforced concrete design and supervision of construction with Hansford & Hansford, Ltd., Durban, Natal, South Africa. *TT 1.9: P 1.9: RC 1.9: D 1.9.* May 1922 to Jan. 1924 Dist. Engr. covering Yorkshire, Derbyshire, Nottinghamshire and Lincolnshire, England, for Peter Lind & Co., principally making reports on prospective engineering contracts, and supervision of constructional work. *TT 1.7: P 1.7.* May 1924 to date Engr., Truscon Steel Co., Youngstown, Ohio, designing, detalling and estimating reinforced concrete and allied constructional works. *TT 1.2: P 1.2: D 1.2. TT 6.7: P 6.7: RC 1.9: D 4.8.* Refers to K. Berle, O. W. Irwin, N. H. Jebeljan, J. Kahn, R. D. Snodgrass, N. H. Sturdy.

**583 (13) KOGAN, JACOB JOSEPH**, 2224 Dana St., Berkeley, Cal. (Age 22. Born Ismail, Bessarabia, Roumania.) 1925 B. S. in C. E., Univ. of Cal. *TT 2: SP 2.* Refers to R. E. Davis, C. Derleth, Jr., F. S. Foote, C. G. Hyde, P. A. Swafford, G. E. Troxell.

**584 (13) KRAMER, EDWIN WEED**, U. S. Forest Service, San Francisco, Cal. (Age 48. Born Louisville, Ky.) 1906 C. E., Cornell Univ. June to Sept. 1905 Levelman, New York State Barge Canal. *TT 2: SP 2.* Sept. 1905 to Sept. 1907 Supt. of Constr., Quartermaster Dept., U. S. Army, designing and supervising construction of wharves, buildings, pumping plants and water systems. *TT 2: P 2: D 1.* Sept. 1907 to date with U. S. Forest Service, 4 years as Constr. Engr., designing and constructing bridges, irrigation systems, roads, trails and buildings; then nearly 9 years Dist. Engr., Dist. 1. Missoula, Mont., on same work, also reporting on applications for water-power permits and supervising fulfilling of conditions of permit by permittee and co-operating with Water Resources Branch of U. S. Geological Survey in obtaining stream-flow data in Montana and Idaho; since June 1920 Hydr. Engr.,

writing reports on power and irrigation projects for Federal Power Comm.; work includes estimating cost and feasibility of projects, best method of developing resources of each stream or watershed, passing on safety of dams included in projects, and making valuation of projects constructed at time of issuing license. Since June 1923 member of California Power Board (which at times investigates and recommends best method of developing resources of certain streams in California in interests of irrigation, power and navigation). *TT 17.9: P 17.9: RC 13.9: D 2. TT 21.9: SP 2: P 19.9: RC 13.9: D 3.* Refers to F. E. Bonner, P. H. Dater, D. C. Henny, O. C. Merrill, T. W. Norcross, R. R. Randell.

**585 (1) KRISHNAMURTHY, SATHANUR RAMACHANDRA, P. O. Mulshi, Dist. Poona, Bombay, India.** (Age 29. Born Madras, India.) 1919 B. E., Madras Univ. Aug. 1920 to May 1922 Dist. Board Asst. Engr. under Trichinopoly Dist. Board, executed several responsible works. *TT 1.8: P 1.8: RC 1.8.* Feb. 1923 to date Asst. Res. Engr., Nila Mula Hydro-Electric Project, of Tata Power Co., Bombay, India. *TT 1.4: P 1.4. TT 3.2: P 3.2: RC 1.8.* Refers to G. B. E. Truscott (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

**586 (7) KRUEGER, HENRY RICHARD, Commonwealth Power Corporation, Jackson, Mich.** (Age 26. Born Berghofen, Germany.) 1922 Diplom Engr., Tech. Coll. at Darmstadt, Germany. Aug. to Oct. 1919 Draftsman with A. G. für Bergmanns-Feuerung, Dortmund, Germany. Aug. to Oct. 1920 Constr. Man, Phoenix A. G. für Bergbau & Huettenbetrieb, buildings for coal mines, etc., Hoerde, Westfalen, Germany. Aug. to Oct. 1921 Surveyor, Sewerage and Water-Works Dept., City of Hoerde, Germany. *TT 2: SP 2.* March to Sept. 1922 Constr. Engr., C. H. Jucho Steel & Iron Works, Dortmund, designing and erecting reinforced concrete and steel construction for industrial plants. *TT 0.6: P 0.6: RC 0.4: D 0.2.* Oct. 1922-July 1923 Industrial Engr. with Phoenix A. G., Hoerde, calculations, designs and superintendence of industrial plants. *TT 0.8: P 0.8: RC 0.8.* Dec. 1923 to Feb. 1924 Draftsman with Tait & Lord, Civ. Engrs., Inc., Chicago, Ill., reinforced concrete details. *TT 0.3: SP 0.3.* Feb. 1924 to March 1925 Designing Engr., Adolph Johnson Co., Battle Creek, Mich., designs and calculations for industrial, office buildings, power plants, etc., Headman, Calculation Dept. *TT 1: P 1: RC 0.7: D 0.2.* March 1925 to date Designing Engr., Eng. Dept., Commonwealth Power Corporation, Jackson, Mich. *TT 0.1: P 0.1. TT 4.8: SP 2.3: P 2.5: RC 1.9: D 0.4.* Refers to J. S. Bowman, E. M. Burd, A. A. Cummins, F. B. Kiel, E. Maerker, N. Van Eenam.

**587 (1) KYRIACOPULOS, BASIL SPELIOU, Euripides 2, Athens, Greece.** (Age 28. Born Kococova, Greece.) 1918 B. S. in C. E., National Metsovyon Pol. School of Greece. 1923 C. E., Washington Univ., St. Louis, Mo. Dec. 1918 to Oct. 1920 Jun. Civ. Engr. and Asst. Engr., Public Works of Greece, Office of Communications, Achaia Dist., on construction of new and maintenance of old highways, bridges and culverts; in charge of plan of city of Patras, public buildings, harbor works, etc. *TT 3.8: RC 1.2: D 0.6.* Oct. 1923 to date Chf. Engr., Lutropolis Bouliagmeni (anonymous society), building a new city for a summer resort, city plan, hotels, bathhouses, parks, new road, water supply, light, etc. *TT 1.2: RC 0.7: D 0.5. TT 5.1: RC 2: D 1.1.* Refers to E. O. Sweetser, J. L. Van Ornum. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

**588 (12) LaLONDE, WILLIAM SALEM, Jr., U. S. S. Guide, Marshfield, Ore.** (Age 24. Born Chicago, Ill.) 1923 S. B., Mass. Inst. Tech. July to Oct. 1923 and Oct. to Dec. 1923 Rodman, acting as Instrumentman. *TT 2.4.* Dec. 1923 to May 1924 Machine Designer and Draftsman for William S. LaLonde on development of an invention. *TT 0.4: D 0.4.* May 1924 to June 1925 Jun. Civ. Engr., City Engr.'s Office, Los Angeles, Cal., on design of street improvement work, including writing of ordinances and preparation of assessment districts. *TT 1.1: D 1.1.* June 1925 to date Deck Officers, U. S. Coast and Geodetic Survey, U. S. S. Guide, on hydrographic survey off coast of Oregon. *TT 0.1. TT 4.4: D 1.5.* Refers to J. B. Babcock, 3d, H. L. Bowman, C. B. Breed, G. D. Cowie, J. W. Howard, C. J. Schults.

**589 (5) LANCASTER, GEORGE GRAHAM, P. O. Box 207, Clifton Forge, Va.** (Age 28. Born Weldon, N. C.) 1918 B. S. in Civ. Eng., Va. Pol. Inst. June to Sept. 1916 Rodman, and June to Sept. 1917 Transitman, Southern Ry. Co., surveying and drafting. *TT 2: SP 2.* June to Nov. 1918 Flying Cadet, U. S. Army Air Service. Jan. 1919 to date with Chesapeake & Ohio Ry. Co., until Nov. 1922 as Draftsman on plans, design and estimates of tracks and buildings, 1 year on standards design; since then Res. Engr. in charge of construction, yards, buildings, bridges and miscellaneous structures, Norfolk & Newport News Terminal and



Clifton Forge Terminal. TT 6.4: SP 2.9: P 3.5: RC 2.5: D 1. TT 8.4: SP 4.9: P 3.5: RC 2.5: D 1. Refers to L. B. Allen, R. B. H. Begg, G. B. Bright, A. C. Copland, C. Miller, J. P. Nelson.

**590 (11) LAVERTY, FINLEY BURNAP**, 5332 Abbott Pl., Los Angeles, Cal. (Age 24. Born Wellsville, Ohio.) 1922 B. S., Occidental Coll., Los Angeles, Cal. 1925 S. B., Mass. Inst. Tech. July 1922 to Oct. 1923 Chainman, Transitman and Fieldman (Chf. of Party), Pacific Telephone & Telegraph Co., Los Angeles, Cal., on surveys. TT 3.3: SP 2.8: P 0.5. April 1925 to date Student Instructor in Surveying, Massachusetts Inst. of Technology. TT 0.2: P 0.2. TT 3.5: SP 0.8: P 0.7. Refers to J. B. Babcock, 3d, H. K. Barrows, H. L. Bowman, C. B. Breed, C. M. Spofford, W. Woodard.

**591 (1) LAVERTY, FRANCIS JOHN**, 966 First Pl., West New York, N. J. (Age 26. Born Worcester, Mass.) 1922 S. B., Mass. Inst. Tech. July 1922 to Jan. 1924 Jun. Engr., Sanitary Dist. of Chicago, Ill., elementary design, tracing, etc.; design incidental to construction of sewage-treatment plant and sewers. TT 3.5: SP 2.7: P 0.7: D 0.5. Feb. 1924 to March 1925 Asst. Engr., State Dept. of Health, Charleston, W. Va., supervision of operation of water-treatment plants, approval of designs for sewers and acting in advisory capacity for towns. TT 1.1: P 1.1: RC 1. March 1925 to date Asst. Engr., Town of North Bergen, N. J.; Asst. to Town Engr. on construction and design of sewerage system. TT 0.2: P 0.2: RC 0.2: D 0.1. TT 4.8: SP 2.7: P 2.1: RC 1.2: D 0.6. Refers to J. P. Blundon, O. L. Eltinge, L. Pearse, C. M. Spofford, L. C. Whittemore.

**592 (14) LITRELL, RAYMOND ROBERT**, 409 Winne Bldg., Wichita, Kans. (Age 26. Born Boomer, Mo.) July 1915 to July 1917 (summer and part of time during winter while at school) Chainman and Rodman, City of Ottawa, Kans. TT 0.3: SP 0.3. July 1917 to Feb. 1918 Chainman and Rodman, Missouri, Kansas & Texas Ry. TT 0.6: SP 0.6. Feb. 1918 to March 1919 with Empire Oil Co., Bartlesville, Okla., 6 months as Instrumentman at Eldorado, Kans., and 7 months Field Engr. in charge of party on pipeline and telephone line location. TT 1.1: SP 1.1. March 1919 to Feb. 1920 Res. Engr. on highway construction in Caldwell County, Tex. (6 months); Instrumentman in charge of construction surveys (5 months). TT 0.9: SP 0.9. Feb. to July 1920 Draftsman and design of road plans for Bexar County, Tex. TT 0.4: SP 0.4. July to Oct. 1920 Office Engr., drafting and design on road plans for Edwards County, Tex. TT 0.2: SP 0.2. Oct. to Dec. 1920 Draftsman on power-line construction, Texas Constr. Co., Eastland. TT 0.2: SP 0.2. Jan. to July 1921 Right-of-Way Engr. on valuation work on land values, M., K. & T. Ry., Parsons. TT 0.5: SP 0.5. July 1921 to Nov. 1923 Project Engr. and Asst. Project Engr. in charge of highway construction, Missouri State Highway Dept. TT 2.3: P 2.3: RC 2.3. Nov. 1923 to date Contr. on highway bridges in Missouri, Kansas and Oklahoma. TT 1.4: P 1.4: RC 1.4. TT 7.9: SP 4.2: P 3.7: RC 3.7. Refers to B. Boyle, F. W. Epps, A. A. Laird, J. McIntyre, H. P. Mobberly, W. O. Washington, G. N. Wheat.

**593 (5) LOHR, LENOX RILEY**, Room 810, Mills Bldg., Washington, D. C. (Age 33. Born Washington, D. C.) 1916 M. E., Cornell Univ. Nov. 1916 to April 1917 2d Lieut., Coast Artillery Corps, U. S. Army; student, Coast Artillery School, Ft. Monroe, Va. TT 2.4: SP 2: P 0.4: RC 0.1. April to Aug. 1917 1st Lieut., Coast Artillery Corps, coast defenses, Puget Sound; June 1917 appointed 2d Lieut. also Capt., Corps of Engrs., U. S. Army (accepted latter Oct. 1917); made instrumental survey, northern half of Whidby Island, and drew the maps; Aug. 1917 to Jan. 1918 Co. Commander, Co. B, 4th Engrs., Vancouver Barracks, Wash.; designed and constructed 20-target rifle range, Vancouver Lake, Wash.; also various engineering work, constructing bridges, roads, mining, etc.; appointed Topographic Officer, 4th Engrs. Changed station to Camp Green, N. C. (Dec. 1917). TT 0.8: P 0.8: RC 0.7: D 0.3. Jan. to March 1918 student, course in Codes and Ciphers, Riverbank Laboratory, Ill. TT 0.2: P 0.2. March to June 1918 Asst. and Acting Intelligence Officer (G-2), 4th Div., with A. E. F. (May 1918). TT 0.2: P 0.2: RC 0.2. June to Sept. 1918 student and graduate, Army Gen. Staff Coll., Langres, France. TT 0.3: P 0.3. Sept. 1918 to March 1919 Brig. Adj., 57th Brig.; Oct. 1918 appointed Major, Corps of Engrs., in Alsace Defensive Sector in Meuse-Argonne Offensive. TT 0.5: P 0.5: RC 0.5. March to June 1919 student, Claire Coll., Cambridge Univ., England. TT 0.2: P 0.2. July to Oct. 1919 in office of Chf. of Engrs., Washington, D. C., designing railway shop trains. TT 0.2: P 0.2: RC 0.2: D 0.2. Oct. 1919 to June 1920 Instructor, Elec. Eng., and June 1920 to Jan. 1922 Director, Mech. Depts. (Automotive, Blacksmith and Oxy-Acetylene Welding, Tinsmith and Machine Shop), Engr. School, Ft. Humphreys, Va.; 3 months student, Motor Transport School, Camp Holabird, Md.; 2 weeks inspecting auto factories in Detroit; designed buildings, secured and

installed equipment. *TT 2.3: P 2.3: RC 2: D 1.7.* Jan. 1922 to date in office of Chf. of Engrs., U. S. Army; Jan. to Aug. 1922 Managing Editor, and Aug. 1922 to date Editor (latter includes position of Business Mgr. and Publisher), *The Military Engineer*, Washington, D. C.; Member, Advisory Council, Federal Board of Surveys and Maps. *TT 3.3: P 3.3: RC 2.7.* *TT 10.4: SP 2: P 8.4: RC 5.9: D 2.2.* Refers to L. H. Beach, C. H. Birdseye, W. M. Black, F. C. Boggs, W. Bowie, H. Brand, Jr., W. T. Chevallier, H. C. Fiske, S. C. Godfrey, R. P. Howell, W. Kelly, H. Taylor.

**594 (12) LUPER, JAMES RHEA**, Salem, Ore. (Age 37. Born Eugene, Ore.) July 1909 to Jan. 1910 Rodman, Instrumentman and Chf. of Party for State of Oregon, on surveys for location and irrigated area of lands of claimants to waters of State; also location and capacity of canals and analysis of claims and securing of other data for adjudication of water rights, and May to Nov. 1910 Chf. of Party on similar adjudication. *TT 1.1: SP 0.5: P 0.6.* Jan. to April 1910 Chf. of Party, Willow River Land & Irrigation Co., Malheur County, Ore., location of canals and ditches for irrigation project. *TT 0.3: SP 0.3.* Jan. to March 1911 in charge of subdividing acreage adjacent to City of Portland, Ore. *TT 0.2: P 0.2.* March to May 1911 Hydrographer, Harney Valley Irrigation Co., making hydrometric measurements and computing water supply study for irrigation of 100 000 acres in Harney County, Ore. *TT 0.2: P 0.2.* May 1911 to March 1915 with State of Oregon, until Feb. 1913 as Chf. of Party on surveys, for adjudication of water rights for about 150 000 acres, involving much hydrometric work and study of water supply; then Asst. State Water Supt. on hydrographic work of adjudication of water rights on Rogue River and tributaries, and special studies of water supply on various streams. *TT 3.8: P 3.8.* March 1915 to March 1919 Engr., State Water Board of Oregon, involving responsible charge of special investigation concerning administration of water code, minor water right adjudications and in charge of water distribution in eastern Oregon. *TT 4: P 4: RC 4.* March 1919 to Aug. 1923 Asst. State Engr. of Oregon, in charge of water distribution from streams on which rights have been determined under water code. *TT 4.3: P 4.3: RC 4.3.* Aug. 1923 to date State Engr. of Oregon (office is responsible for initiation, adjudication and administration of rights to use of State waters, and approval of plans and feasibility of irrigation and drainage projects); Secy. of Irrigation and Drainage Securities Comm. and passes on contracts in excess of \$5 000 issued by irrigation districts, also on pledging of State's credit in guaranteeing interest on irrigation or drainage district bonds; Secy. of Desert Land Board (governs reclamation of land under Carey Act); co-operates with U. S. Geological Survey in topographic and hydrographic surveys. *TT 1.7: P 1.7: RC 1.7.* *TT 15.6: SP 0.8: P 14.8: RC 10.* Refers to H. M. Chadwick, J. W. Cunningham, D. C. Henny, R. A. Klein, J. H. Lewis, C. M. Redfield.

**595 (1) LYNCH, EDWARD DEWEY**, 232 Cypress Ave., Bronx, New York City. (Age 27. Born Springfield, Mass.) 1½ years (evenings) student, C. E. course, Brooklyn Polytechnic Inst. May 1917 to Jan. 1918 Jun. Draftsman, Lieberman & Sanford Co., New York City, ornamental iron drafting, tracing, filing, etc. *TT 0.7: SP 0.7.* Jan. to Oct. 1918 Signal Draftsman, Brooklyn Rapid Transit Co., laying out transit lines for proposed signal locations, concrete drafting on transformer compartments, signal towers, signal ducts. *TT 0.7: SP 0.7.* Oct. to Dec. 1918 Radio Operator, Signal Corps, U. S. Army, 30th Service Co. *TT 0.2: SP 0.2.* Dec. 1918 to Feb. 1920 Instrumentman and Draftsman, New York, New Haven & Hartford R. R. Co. *TT 1.2: SP 1.2.* Feb. 1920 to July 1921 Draftsman, Chile Exploration Co., New York City, concrete drafting and detailing and some design, on smelter and refining plants, leaching vats, substations and industrial buildings. *TT 1.4: SP 1.2: P 0.2: D 0.2.* July 1921 to July 1922 Transitman and Draftsman, Thos. E. Murray, Inc., New York City, on Eng. Staff at Hell Gate Power House Field Office, lines, levels, plotting, field notes, miscellaneous drafting and design. *TT 1: SP 0.8: P 0.2: D 0.2.* July to Nov. 1922 Draftsman, H. G. Balcom Co., New York City, on structural steel for hotels and industrial buildings, also Detailer. *TT 0.3: SP 0.3.* Nov. 1922 to Jan. 1923 Draftsman, Dwight P. Robinson Co., New York City, on concrete also Detailer and some design, on industrial building and powerhouse work. *TT 0.2: SP 0.2.* Jan. 1923 to date with W. F. Kenny Co., New York City, as Asst. Supt. in charge at Hell Gate Power House, including design, surveying, handling sub-contracts, ordering materials and general supervision of men and materials. *TT 2.3: SP 0.3: P 2: RC 1.5: D 0.5.* *TT 8: SP 5.6: P 2.4: RC 1.5: D 0.8.* Refers to J. L. Bogart, E. W. Borough, F. A. Boyle, F. A. Holby, G. J. Melse, H. R. Standiford.

**596 (9) LYNCH, JOHN THOMAS**, Box 94, Frankfort, Ky. (Age 34. Born Citra, Fla.) 1914 B. A., Univ. of Wis. June to Sept. 1910 Plane-Table Recorder, U. S. Geological Survey. *TT 0.3: SP 0.3.* Jan. 1911 to Jan. 1912 Computer, Transitman, U. S. Reclamation Service. *TT 1: SP 1.* Jan. to June 1912 Chainman, Topographer, Lynchburg, Danville & Carolina

Ry. Co. *TT 0.5: SP 0.5.* June 1912 to Feb. 1913 and June to Sept. 1913 Plane-tableman, Topographer, Brown & Clarkson, Topographic Engrs., plane-table survey of City of Cincinnati, Ohio; preliminary surveys for hydro-electric development on Dix River, Ky., and Yadkin River, N. C.; in charge of field plane-table party. *TT 1: P 1.* June 1914 to Jan. 1915 Computer, Washington (D. C.) Ry. & Elec. Co., on valuation computations. *TT 0.6: SP 0.6.* Jan. 1915 to June 1916 Transltman, Southern Ry. System, on valuation survey, retraced existing rack, etc. *TT 1.5: SP 1.5.* June to Sept. 1916 with Interstate R. R., Appalachia, Va., made valuation survey for small railroad (40 miles) and assisted on construction (staked out yard tracks, etc.). *TT 0.3: P 0.3.* Sept. 1916 to May 1917 Jun. Engr., Southern Ry. System, staked out and inspected construction of bridge, tunnel and yard (reported to Res. Engr.). *TT 0.7: P 0.7.* May 1917 to Aug. 1919 with U. S. Army, 1st Officers' Training camp (3 months); 1st Lieut. of Engrs. (8 months); Capt. of Engrs. (1½ years); Company Commander, overseas (1 year). *TT 2.3: P 2.3: RC 1.3.* Aug. 1919 to Aug. 1920 in charge of field party (reported to Supt. of Constr.), Kentucky & West Virginia Power Co., located transmission line in mountains. *TT 1: P 1.* Aug. 1920 to Jan. 1922 with Amick and Haynes, Engrs., Pikeville, Ky., on various work, city streets, county roads, and mining work, including field and office work, plans, estimates, etc., both surveys and supervision of construction. *TT 1.4: P 1.4: RC 1.4: D 0.6.* Jan. 1922 to date with Kentucky Dept. of State Roads and Highways, as Locating Engr. (1½ years) (reported to Engr. of Design), on field location, plans and estimates prepared in field; then Field Drainage Engr. (1½ years) at Central Office (reported to Engr. of Design and later to Bridge Engr.), checks bridge surveys in field, supervises bridge surveys made by Locating Engrs., recommends sizes and types of structures, makes special investigations, reports and estimates; several months on design. *TT 3.5: P 3.5: RC 3.5: D 1.5.* *TT 14.1: SP 3.9: P 10.2: RC 2.1: D 6.2.* Refers to C. R. Bloxton, W. N. Brown, O. B. Lackey, J. L. Nagle, M. E. S. Posey, R. H. Randall, E. N. Todd, F. R. Weller.

**597 (3) MACK, GEORGE JOHN**, 915 James Ave., Niagara Falls, N. Y. (Age 21. Born Niagara Falls, N. Y.) 1925 B. S. in Civ. Eng., Univ. of Mich. *TT 2: SP 2.* Refers to J. H. Cissel, A. J. Decker, L. M. Gram, H. W. King, F. N. Menefee, H. E. Riggs, C. O. Wisler.

**598 (10) McCANN, CHARLES SUMNER**, 423 N. Walnut St., Florence, Ala. (Age 25. Born Sheffield, Mass.) 1921 B. S., Denison Univ. 1924 M. S., Mass. Inst. Tech. Nov. 1923 to date General Inspector on concrete, drilling and machinery, foundation pressure testing, and drafting, Hugh L. Cooper & Co., New York City. *TT 3.4: SP 3.4.* Refers to H. K. Barrows, H. L. Cooper, F. P. Fifer, J. W. Hall, D. C. Jackson, T. S. Johnson.

**599 (14) McCAULEY, MARCY LeMAR**, Care, Harper Constr. Co., Chillicothe, Mo. (Age 22. Born Leona, Kans.) 1924 B. S., Kans. Univ. June to Sept. 1923 Structural Steel Detailer, Kansas City Structural Steel Co. June 1924 to date with Harper Constr. Co. of Leona, Kans., at Chillicothe, Mo., on construction of \$110 000 bridge over Grand River; Asst. Supt. and in charge of all office work. *TT 2.9: SP 2: P 0.9: RC 0.3.* Refers to E. Boyce, A. H. Jewell, W. C. McNown, H. A. Rice, F. A. Russell, C. C. Williams.

**600 (15) McCAUSTLAND, GWYNNE GRAVELLE**, Box 785, Cushing, Okla. (Age 31. Born Salem, Ore.) 1916 B. S. in Eng., and 1917, C. E., Univ. of Mo. June to Sept. 1910 Flagman and Stake Artist, State Highway Dept. of Washington, State Aid Road No. 4. June to Sept. 1911 Rodman, Stone & Webster Eng. Corporation, Derringer, Wash. June to Sept. 1914 Rodman, King County Highway Comm., Seattle, Wash. *TT 2: SP 2.* June to Oct. 1917 Draftsman (1 month) and Instrumentman with Black & Veatch, Cons. Engrs., Kansas City, Mo. *TT 0.3: SP 0.3.* Oct. 1918 to May 1919 with U. S. Army, 4 months as Orientation Officer of 69th Regt., C. A. C., France; Capt. C. A. C.; and after Feb. 1919 Camp and Area Inspector, Camp Pontanzen, Brest, France, on various kinds of inspection, construction and maintenance of tent area, construction of tennis court. *TT 0.5: P 0.5.* Sept. 1919 to date with Black & Veatch, Kansas City, Mo., as follows: Sept 1919 to Jan. 1921 Asst. Res. Engr. on brick paving (\$170 000), Peabody, Kans. (½ month), brick and asphalt concrete paving (\$220 000), Burlington, Kans. (1½ years), and reinforced concrete and sheet asphalt paving (\$70 000), Newton, Kans. (2 months); Feb. 1921 testing brick for paving; March to June 1921 Draftsman on paving and sewer plans; June 1921 to Jan. 1922 Asst. Res. Engr. on brick paving, Goodland (5 months) and Ellis, Kans. (2½ months) (\$450 000); Jan. to June 1922 Res. Engr. on sewers (\$35 000) and water extension (\$30 000), Ellis; July to Sept. 1922 Field Chemist, asphalt paving (\$130 000), Osage City, Kans.; Sept. 1922 to Sept. 1924 Res. Engr. on sewers and sewage disposal (\$70 000), Tonganoxie, Kans. (1 year), and water-works improvements (\$175 000), Woodward, Okla. (1 year); Sept. to Nov. 1924 on preliminary surveys, paving, Holdrege, Nebr., and sewers,

Pattonsburg, Mo., and Draftsman drawing up these notes; since Nov. 1924 Reg. Engr. on sewers and two sewage-disposal plants (\$98 000), Cushing, Okla. *TT 5.7: SP 0.3: P 5.4: RC 3.2. TT 8.5: SP 2.6: P 5.9: RC 3.2.* Refers to E. B. Black, E. H. Dumire, A. H. Fuller, A. L. Hyde, H. A. LaRue, A. P. Learned, E. J. McCaustland, N. T. Veatch, Jr.

**601 (4) McCLINTOCK, EDGAR FRANK**, 148 Rhoads Ave., Haddonfield, N. J. (Age 39. Born Harrisburg, Pa.) 1904 to 1906 Chainman and Levelman with N. A. McConnel on construction of four 50-ton open hearth furnaces, assisting in giving lines and elevations. *TT 1.5: SP 1: P 0.5.* 1906 to 1907 with H. G. Taylor as Transitman on preliminary survey and construction of 2½ miles of railroad, also construction of concrete dam, sluiceway and ore washer. *TT 1.5: P 1.5.* 1907 to 1910 with Pennsylvania State Highway Dept., short time as Transitman, then Chf. of Party in charge of surveys for improved highways, establishing grades, lines and drainage and supervising road construction. *TT 3: P 3.* 1910 to date with Pennsylvania R. R. as Draftsman in charge of property surveys, masonry plans and estimating; had complete charge of construction of 3-span, 2-track, concrete arch bridge, giving lines and elevations and supervising the work; had charge of survey, estimate and construction of six multiple duct conduit for placing wires underground in connection with electrification between Philadelphia and Paoli; then in Master Carpenter's office in complete charge of erection of 14 steel bridges on Trenton Branch; then Bridge Inspector in office of Eng. M. of W., also some designing; then Asst. Master Carpenter, first at Erie, Pa., in charge of maintenance of bridges, buildings and ore docks, also removal of 75-ft. turntable and installation of 110-ft. turntable at Renova engine house, and later at New York, in charge of maintenance of bridges and buildings; since then Master Carpenter, first, at Williamsport, Pa., and at present at Camden, N. J., in charge of maintenance of ferry docks, bulkheads and freight slips along Delaware River, Camden, also bridges and buildings, including eleven drawbridges on Atlantic and Camden Terminal Divs. *TT 15: SP 8: P 7: RC 7. TT 21: SP 9: P 12: RC 7.* Refers to G. H. Biles, R. G. Develin, G. W. Ensign, R. Farnham, C. Gilman, A. R. Wilson.

**602 (7) McGEACHY, ROBERT ANDREW**, Muskegon, Mich. (Age 26. Born Collingwood, Ont., Canada.) 1923 B. S. C. E., Univ. of Mich. June to Dec. 1920 time and cost work in field and surveying, and June to Oct. 1923 Contr.'s Engr. and handling materials on railroad construction, Fred R. Jones Co. of Cleveland and Chicago. *TT 2.5: SP 2.5.* June to Sept. 1922 with Sarnia (Ont.) Bridge Co. Feb. to June 1923 municipal inspection, Village of Springwells, Mich., under Hubbell & Roth, Engrs., Detroit. *TT 0.3: P 0.3.* Oct. 1923 to date Contr.'s Engr., O. F. Miller Co., Kalamazoo, Mich., work including field costs, layout and handling materials. *TT 1.5: P 1.5 TT 4.6: SP 2.5: P 2.1.* Refers to J. H. Cissel, A. J. Decker, L. M. Gram, W. C. Hoad, H. W. King, H. E. Riggs, C. O. Wisler.

**603 (11) McKINNEY, JOHN WILLIAM**, 334 N. Washington Ave., Whittier, Cal. (Age 29. Born Beaver Falls, Pa.) 1924 A. B. (Major, Civ. Eng.), Stanford Univ. June 1921 to Sept. 1922 Chainman, Instrumentman and Draftsman, Standard Oil Co., Prod. Dept., Bakersfield, Cal., field survey of properties and pipe-lines, drawing maps, buildings and plans for construction. *TT 3.2: SP 3.2.* June 1924 to date Civ. Engr., same Company, field surveys, design of buildings and pipe lines, general engineering work. *TT 0.9: SP 0.9. TT 4.1: SP 4.1.* Refers to J. C. L. Fish, C. D. Marx, C. Moser, L. B. Reynolds, E. C. Thomas, C. B. Wing.

**604 (4) McMorris, WILLIAM BARNHART**, 2284 N. 6th St., Harrisburg, Pa. (Age 22. Born Harrisburg, Pa.) 1925 C. E., Lehigh Univ. June to Sept. 1923 Signal Helper, Pennsylvania R. R., drafting and inspection of interlocking layouts. *TT 2: SP 2.* Refers to S. A. Becker, R. J. Fogg, M. O. Fuller, F. J. Lewis, H. G. Payrow, W. L. Wilson.

**605 (5) MITCHELL, WILLIAM HARVEY**, 1630 No. Bond St., Baltimore, Md. (Age 30. Born Baltimore, Md.) Student, Baltimore Polytechnic Inst. (prior to 1912); Mech. Arts and Design, Maryland Inst. (1910 to 1914); Civ. Eng. course, International Correspondence Schools (1914-1917); night courses in Structural Eng. and Economics, and periodic afternoon lectures on engineering practice, Johns Hopkins Univ. (1919 to 1922). June 1912 to Dec. 1917 Draftsman and Designer, U. R. & E. Co., Engr. Dept., office and field engineering, design of special track, and miscellaneous railway structures, giving lines and grades, physical valuation and engineering investigations; part of time Special Asst. to Engr. M. of W., and 1 year on physical valuation of railway property (valuation in charge of Stone & Webster of Boston. *TT 5.5: SP 3: P 2.5: D 2.5.* Dec. 1917 to May 1918 Civ. Engr., Office Quartermaster Gen., Constr. Div. of U. S. Army, Washington, D. C., location and design ordnance depots, supply bases, ports of embarkation, hospitals and warehouses.



*TT 0.5: P 0.5: D 0.5.* May to Nov. 1918 Production Expert, Bureau of Aircraft Production, U. S. Govt., Washington, planning aircraft programs and production control. *TT 0.5: P 0.5: RC 0.5.* Nov. 1918 to Aug. 1919 Production Expert, Bureau of Aircraft Production, finance appraisals, Washington, and Buffalo, N. Y., Govt. Supervisor of plant appraisals and field inventories at plants. *TT 0.8: P 0.8: RC 0.8.* Aug. 1919 to date Engr. Inspector, Consolidated Gas, Elec. Light & Power Co., Baltimore, Md., in charge of inspection, supervision and checking of rehabilitation and construction expenditures, engineering valuation, land and structure records, price variations; 2 years coordinating and expediting valuation of property, gas, electric light and power; Member of Valuation Committee of Company (1920-1921), also Asst. to Elec. Engr. on valuation of electric properties (1921-1922). *TT 5.8: P 5.8: RC 5.8 TT 13.1: SP 3: P 10.1: RC 7.1: D 3.* Refers to R. L. Chamberlaine, F. K. Duncan, W. D. Janney, W. A. Megraw, R. B. Sleight, W. F. Strouse.

606 (8) **MONROE, WILLIAM STANTON**, 1412 Edison Bldg., Chicago, Ill. (Age 56. Born Chicago, Ill.) 1890 M. E., Cornell Univ. 1890 to 1900 held several minor positions in Chicago. *TT 2: SP 2.* April 1900 to July 1919 with Sargent & Lundy, Mech. and Elec. Engrs., as Chf. Draftsman and Mech. Engr.; and since then Pres., Sargent & Lundy, Inc., Cons. Engrs., for Commonwealth Edison Co., Public Service Co. of Northern Illinois, Middle West Utilities Co., Central Illinois Public Service Co., all of Chicago, and American Gas & Elec. Co. and Columbia Gas & Elec. Co. of New York; work of firm being especially design and construction of electric power stations, substations and transmission lines; during last few years power stations designed in office and built under supervision of firm include Crawford Ave. Station, of Commonwealth Edison Co., Philo Station of American Gas & Elec. Co., Waukegan Station of Public Service Co. of Northern Illinois and Miami Fort Station of Columbia Gas & Elec. Co.; since 1912 has had charge of all power station design and construction. *TT 27: SP 2: P 25: RC 25: D 25.* Refers to F. W. Adgate, C. B. Burdick, J. W. Doty, L. J. Hotchkiss, A. F. Reichmann, C. L. Strobel, J. E. Wadsworth.

607 (11) **MOORE, EDWARD McDOWELL**, 2631 West Ave. 32, Los Angeles, Cal. (Age 46. Born in Botetourt County, Va.) Student, Washington and Lee Univ. (1894 to 1897 and 1898-1900). June to Oct. 1901 assaying, etc., in mill-mining company, Chacala, Mexico. *TT 0.3: SP 0.3.* Jan. to June 1902 with erection party on steel viaduct at Chattanooga, Tenn. (2 months) and Helper in open hearth furnaces of Tennessee Coal, Iron & R. R. Co. at Ensley, Ala. (4 months). *TT 0.5: SP 0.5.* July 1902 Rodman, Aug. to Oct. 1902 Topographer, Oct. 1902 to July 1903 Transitman, and Aug. 1903 to April 1904 Res. Engr. on construction, Chesapeake & Ohio Ry. *TT 1.7: SP 0.7: P 1: RC 1.* Jan. to May 1905 Transitman, Denver & Rio Grande R. R. *TT 0.3: SP 0.3.* June 1905 to April 1906 Res. Engr., Suffolk, Va., Dismal Swamp Residency, Virginian R. R. *TT 0.8: P 0.8: RC 0.8.* April 1906 to Aug. 1907 Res. Engr., second-tracking, C. & O. Ry., through New River Narrows, Kanawha Falls, W. Va. *TT 1.3: P 1.3: RC 1.3.* Aug. to Nov. 1907 Supt., Derryhale (W. Va.) Mine, McKell Coal Co. *TT 0.2: P 0.2: RC 0.2.* March 1908 to Dec. 1910 surveys, estimates, design and study on private water power project in Virginia. *TT 2.8: P 2.8: RC 2.8: D 1.* Jan. to May 1911 on water-power investigations for Carolina, Clinchfield & Ohio Ry., dam locations, hydrographs and estimates of streams near the railroad. *TT 0.4: P 0.4: RC 0.4: D 0.4.* July 1911 to July 1912 Res. Engr., New England Power Co., final location Dams Nos. 2-4 and Somerset Dam; Res. Engr., Somerset Dam. *TT 1: P 1: RC 1.* Jan. 1913 to June 1913 on surveys and investigations of Okefinokee swamp for J. G. White & Co. *TT 0.4: P 0.4: RC 0.4.* Sept. 1913 to June 1924 in charge and one-half owner of 2400-acre farm timber and drainage property in Maryland, considerable engineering work. At present Jun. Clv. Engr., City Eng. Dept., Los Angeles, Cal. *TT 10.7: SP 8.7: P 2: RC 2: D 1. TT 20.5: SP 10.5: P 10: RC 10: D 2.4.* Refers to M. J. Caples, A. A. Conger, J. N. H. Cornell, A. S. Crane, C. P. Howard, W. T. Knowlton, C. T. Main, H. A. Van Norman.

608 (7) **MORRIS, MARK BENTON**, Care, Iowa State Highway Comm., Ames, Iowa. (Age 31. Born near Stockport, Iowa.) 1921 B. S. in C. E., Iowa State Coll. June 1916 to March 1917 Res. Engr. on earth and gravel roads and concrete culvert construction, Iowa. *TT 2.7: RC 0.7.* April 1917 to March 1918 Asst. County Engr., Woodbury County, Iowa, supervision of earth road construction, inspection concrete bridge and culvert construction; Levelman on preliminary survey, 55-mile Federal Aid project. *TT 0.9: RC 0.9.* March to Sept. 1918 Computer and Asst. Pilot Engr., Valuation Dept., St. Louis & San Francisco Ry., preparation of pre-inventory of physical property in bridges and buildings; inspection in field of inventory being taken by Interstate Commerce Comm. party. *TT 0.5: RC 0.5.* Sept. to Dec. 1918 Asst. Engr. for Moriarty & Luse, Engrs., Sioux City, Iowa, in charge of heavy drainage ditch construction and cleanout work; some surveys. *TT 0.3: RC 0.3.* June to Oct.

1919 (vacation) Res. Engr. on small earth road construction project. June 1920 to date with Iowa State Highway Comm., until Nov. 1920 as Inspector, Dept. of Materials and Tests, inspection and tests of materials for use in one course concrete pavement construction, and since then Research Asst. to Engr. of Materials and Tests, having direct supervision of research projects covering use of materials, methods of tests and principles of design. *TT 5: RC 5. TT 9.4: RC 7.4.* Refers to T. R. Agg, J. H. Ames, O. W. Crowley, R. W. Crum, M. L. Hutton, F. H. Mann, A. Marston, J. S. Morrison, W. H. Root, F. R. White.

**609 (7) MORSE, CHAUNCEY NEVILLE**, 401 Third Ave., S., Estherville, Iowa. (Age 23. Born Estherville, Iowa.) 1923 B. S. in Civ. Eng., Iowa State Coll. June to Aug. 1923 Filter-helper in shops of American Bridge Co., Gary (Ind.) Plant. *TT 2.2: SP 2.2.* Oct. 1923 to June 1924 Acting Instructor, and Sept. 1924 to date Instructor, in Civ. Eng. Drawing, Iowa State Coll. *TT 1.3: P 1.3.* Aug. to Sept. 1924 Asst. to Special Engr. on estimate for proposed civic improvement for City of Milwaukee, Wis. *TT 0.1: SP 0.1. TT 3.6: SP 2.3: P 1.3.* Refers to T. R. Agg, R. A. Caughey, J. S. Dodds, W. L. Foster, A. H. Fuller, F. Kerekes, C. S. Nichols.

**610 (12) MURPHY, JOSEPH AMBROSE**, 616 Main St., Lewiston, Idaho. (Age 40. Born Waseca, Minn.) 1904 to 1908 with his father in building contracting, as Apprentice and Journeyman, brick laying and plastering and Concrete Foreman, Idaho Northern Ry. 1908 to 1911 student, Colorado School of Mines (1 year) and Univ. of Colorado (2 years). 1911 to 1912 Bridge Inspector, Transitman, location and construction, I. N. Ry. (U. P. Ry.). *TT 1.3: P 1.3: RC 0.7: D 0.6.* 1912 to 1914 Transitman and Res. Engr., State Highway of Idaho, Twin Falls and Bannock Counties; Res. Engr., Major Bridge (over 20 ft.), eastern Idaho. *TT 2: P 2: D 2.* 1914 to 1917 Locating Engr., Salmon River, Canyon of Idaho; Bridge Engr., State of Idaho, eastern Idaho. *TT 2.8: P 2.8: RC 2.8: D 1.5.* 1917 to 1919 Duty Sergt., Co. A, 23d Engrs., A. E. F., in France, 10 months on lines on bridge work and communication lines. *TT 1.8: P 1.8.* 1919 to 1921 Chf. of Party, location and construction, Gray's Lake Highway, Bonneville County; Res. Engr., bridge construction. *TT 2: P 2: RC 2: D 1.* 1921 to 1922 Res. Engr., steel bridge construction, Grandview and Walter's Ferry Bridge across Snake River, Dead Man Gulch Bridge at Twin Falls, steel arch. *TT 1: P 1: RC 1: D 0.5.* 1922 to 1923 Locating Engr., 4th of July Canyon, Wallace to C. D. A., Locating and Constr. Engr., Shoshone County, Idaho, on Yellowstone Trail, 3½ miles mountain construction, four steel spans across C. D. A. River, etc. *TT 1.5: P 1.5: RC 1.5: D 1.5.* 1923 to 1924 Senior Res. Constr. Bridge Engr., North-South Highway, one steel span, Palouse River, one concrete overhead, Washington, Idaho & Montana Ry., two through concrete girder bridges. *TT 1: P 1: RC 1: D 1.* 1924 to date Bridge Res. Engr., Lapwai and Spaulding Viaducts, North-South Highway. *TT 1: P 1: RC 1: D 0.5. TT 15.9: P 15.9: RC 11.5: D 9.6.* Refers to G. C. Baldwin, C. A. Burnette, I. C. Crawford, B. J. Garnett, J. H. Smith.

**611 (14) NEEL, MERVILLE CHARLES**, Apt. 17, Coronado, Omaha, Nebr. (Age 27. Born Kamrar, Iowa.) 1920 B. S. in C. E., Univ. of Wis. June to Aug. 1917 Rodman and Chainman, Des Moines City Ry. June to Sept. 1918 Transitman, Des Moines Union Ry. *TT 2: SP 2.* July 1920 to March 1921 Bridge Designer, Wisconsin Highway Comm., Madison, Wis. *TT 0.7: P 0.7: D 0.7.* April to May 1921 Foreman on bridge and culvert construction, Shackelton Constr. Co., Perry, Iowa. *TT 0.1: SP 0.1.* July 1921 to Jan. 1922 Bridge Inspector on bridge and culvert construction, Iowa Highway Comm., at Harlan, Iowa. *TT 0.5: P 0.5.* Jan. to Aug. 1922 Bridge Designer on concrete and steel bridges and culverts, North Carolina Highway Comm., Raleigh, N. C. *TT 0.7: P 0.7: D 0.7.* Aug. 1922 to date Asst. Engr., Metropolitan Utilities Dist., Omaha, Nebr., acted as Field Engr. on construction of \$640,000 filter plant, extension of pumping plant, installation of pumps and pipe lines; Field and Office Engr. on construction of 4,000,000-cu. ft. gas holder, involving excavation, design and construction of the foundation, sheet piling, pipe-lines and inspection of part of the steelwork; designed and directed construction of two small buildings, tar separator, pipe tunnels, retaining walls, foundations for machinery, pipe lines and installation of machinery; since June 1925 Efficiency Engr. at gas plant. *TT 2.8: P 2.8: RC 1.5: D 1. TT 6.8: SP 2.1: P 4.7: RC 1.5: D 2.4.* Refers to H. V. Knouse, F. P. Larmon, T. A. Leisen, B. Manchester, F. W. Sarvis, F. E. Turneure, L. F. Van Hagan.

**612 (1) NEGREY, STEPHEN**, 821 Garden St., Elizabeth, N. J. (Age 30. Born Lethbridge, Alberta, Canada.) May 1909 to April 1912 Rodman, Levelman and Transitman, and April 1912 to May 1913 Field Chf. over parties laying out sewers, water mains, street grading and sidewalks, City of Lethbridge. *TT 4: P 4.* June 1913 to Feb. 1914, Chf. of Party, preliminary field survey, office computations and construction of irrigation canal, dams and reservoirs, Southern Alberta Land Co., Medicine Hat, Alberta, Canada. *TT 0.6:*

P 0.6. March 1914 to Jan. 1915 Field Chf., topographical survey 220 miles of river and land adjoining, computing and plotting field data, Provincial Govt. of Alberta, Calgary, Alberta, Canada. TT 0.7: P 0.7: RC 0.7. Jan. 1915 to Nov. 1916 Agt., selling life insurance, Prudential Life Insurance Co., Calgary. Nov. 1916 to Oct. 1917 Chf. of Party and Inspector, and Oct. 1917 to Feb. 1918 Foreman for Contr., railroad yard construction, Delaware & Hudson R. R. Co., Carbondale, Pa. TT 1.4: SP 0.4: P 1: RC 1. April 1918 to July 1922 Asst. Engr., work involved in inventory of railroad property made by Government, on roadbed, yards, structures, lands and Order No. 3: TT 4: P 4: RC 4. July 1922 to Dec. 1923 Field Engr. and Asst. Supt. on reinforced concrete buildings, construction, Augenblick Bldg., Canal St., Newark, N. J., and Butler Bldg., Corona, N. Y. TT 1.5: P 1.5: RC 1.5. Dec. 1923 to June 1924 Supt., construction of 36-family brick apartment house, Field Engr. on construction of concrete apartment houses, Astoria, Crescent Development Co. TT 0.6: P 0.6: RC 0.6. June 1924 to date Field Chf., Structures Div., over approx. 100 engineers on work involved in inventory of New York Edison Co. TT 1: P 1: RC 1. TT 13.8: SP 0.4: P 13.4: RC 8.8. Refers to H. J. Carroll, M. C. Cleveland, G. B. Cornell, J. H. Gaynor, W. K. Peasley, W. C. Rohdenburg, T. K. Thomson.

613 (10) NEIBLING, THOMAS MEINTZER, Care, State Highway Dept., East Point, Ga. (Age 27. Born Augusta, Ga.) 1919 B. S. C. E., Univ. of Ga. June to Sept. 1918 Computer on valuation work, Interstate Commerce Comm., Washington, D. C. TT 2: SP 2. July-Dec. 1919 field and office work, and Jan. 1920 to July 1922 Draftsman and Asst. Engr. in charge of construction, Georgia State Highway Dept. TT 3: SP 2.7: P 0.3. July to Oct. 1922 Research Engr., and Oct. 1922 to Aug. 1923 Highway Research Specialist, Bureau of Public Roads, Washington, D. C., on study of top soil, sand clay and gravel roads in Georgia. TT 1.1: SP 0.3: P 0.8. Aug. 1923 to July 1925 Research Engr., Georgia State Highway Dept., in charge of general research program of top soil and gravel roads, of selection and location of road-building materials for highway work, and of all gravel inspection. TT 1.9: P 1.9: RC 1.9. TT 8: SP 5: P 3: RC 1.9. Refers to R. E. Adams, B. P. McWhorter, W. R. Neel, H. M. Pafford, C. L. Rhodes, S. B. Slack, C. M. Strahan.

614 (4) NEUFFER, ARNOLD, Crescent Court Apts. No. 2, Juniper and Ocean Aves., Wildwood, N. J. (Age 30. Born New York City.) 1919 C. E., Univ. of Cin. May to Aug. 1919 Jun. Engr., Michigan Central R. R., Detroit, Mich.; Valuation Computer. TT 2.2: SP 2.2. Aug. to Nov. 1919 Structural Steel Detailer, Eng. Dept., Case Crane & Eng. Co., Columbus, Ohio. TT 0.3: P 0.3. Dec. 1919 to Sept. 1920 Draftsman and Structural Engr., Architectural Dept., Proctor & Gamble Co., Cincinnati, Ohio, on reinforced concrete factory buildings. TT 0.8: P 0.8: D 0.5. Sept. 1920 to May 1923 Instructor in charge of concrete construction and structural engineering, Ohio Mechanics Inst., Cincinnati, Ohio. TT 2.7: P 2.7: RC 2.7. June 1923 to date Designing Engr., Estimator and Checker, Truscon Steel Co., in charge of estimating, designing and engineering, branch office, Cincinnati (1 year), and Designer and Estimator, home office, Youngstown, Ohio (1 year). TT 2: P 2: RC 1: D 0.5. TT 8: SP 2.3: P 5.7: RC 3.7: D 1. Refers to G. M. Braune, J. Feld, O. W. Irwin, N. H. Jebejian, C. Klaesius, A. Neuffer, E. K. Ruth, H. Schneider, R. D. Snodgrass, N. H. Sturdy.

615 (9) NEWMAN, WILLIAM ARNOLD, 219 Rand Ave., Lexington, Ky. (Age 52. Born in Jessamine County, Ky.) 1893 C. E., Transylvania Univ. 1896 to 1899 Instrumentman, Cincinnati, New Orleans & Texas Pacific R. R. (now Southern). TT 3: SP 3. 1899 to 1901 County Surveyor, Fayette County. TT 2: P 2. 1901 to 1906 with Blue Grass Traction Co. (now Kentucky Traction & Terminal Co.), as Engr. in charge of location and construction of 45 miles of track. TT 6: P 6: D 4. 1907 to 1910 Supt. of Public Works, City of Lexington, Ky. TT 2: P 2: RC 2: D 2. 1910 to 1912 Engr. of Maintenance of Way, Lexington & Eastern R. R. (now Louisville & Nashville R. R.). TT 2: P 2: RC 2. 1912 to 1915 on location and construction of E. K. Div., L. & N. R. R. TT 3.5: P 3.5: RC 3.5. 1917 to date Associate Prof. of Civ. Eng., Univ. of Kentucky. TT 8: P 3: RC 8: D 3. TT 26.5: SP 3: P 23.5: RC 15.5: D 9. Refers to C. H. Blackman, W. J. Carrel, J. F. Grimes, R. B. Hayes, J. T. Madison, D. V. Terrell, E. Zarbell.

616 (13) NIELSEN, FREDERICK AUSTIN, 135 Hillside Ave., Piedmont, Cal. (Age 34. Born Benicia, Cal.) 1913 B. S. in Civ. Eng., Univ. of Cal. May to Aug. 1913 Concrete Inspector, Pacific Gas & Elec. Co., San Francisco, inspecting concrete aggregates and testing cement and concrete during construction of Lake Spaulding Dam and at damsite. TT 2.2: SP 2.2. Sept. 1913 to Feb. 1914 Inventory Draftsman, Pacific Telephone & Telegraph Co., San Francisco, correcting and tracing field equipment drawings. TT 0.4: SP 0.4. March to April 1914 Inventory Draftsman, Spring Valley Water Co., San Francisco, drafting and

tracing field equipment and buildings. *TT 0.1: SP 0.1.* April 1914 to May 1915 Draftsman, U. S. Reclamation Service, Strawberry Valley Project, plotting field notes, computing and making right-of-way plats, preliminary surveys and estimates, and hydraulic designs for laterals. *TT 1.1: SP 1.1.* June 1915 to Jan. 1916 and Feb. to Aug. 1917 Draftsman and Computer, California Highway Comm., estimating earthwork, computing, drafting. *TT 1.1: SP 1.1.* April to July 1916 Inspector on wooden wharf construction, and Aug. to Sept. 1917 Designer and Detailer on designs of small wooden pipe bridge, with L. S. Rosener, Cons. Engr., San Francisco. *TT 0.3: SP 0.3.* Sept. 1916 to Feb. 1917 Recorder, California State Reclamation Board, Sacramento, filling out assessment record forms. *TT 0.4: SP 0.4.* Sept. 1917 to June 1919 in military service; no engineering work. July 1919 to March 1920 and Nov. 1920 to May 1921 Engr., Golden State Asparagus Co., San Francisco, designing, estimating and construction of all kinds of wooden frame ranch buildings, septic tanks, etc., ditch line and levee level surveys. *TT 1.2: P 1.2: RC 0.8: D 0.4.* June to Aug. 1920 Surveyor, Goetjen and Metson Property, Sacramento River, property line surveys of two ranches. *TT 0.2: P 0.2: RC 0.2.* Oct. to Nov. 1920 Surveyor, topographic survey of 600-acre ranch under lease, and Feb. to Nov. 1922 Engr. (Constr.), designing, estimating and construction of all kinds of wooden frame ranch buildings, all for Nielsen, Beaton, Nielsen Co. *TT 0.8: P 0.8: RC 0.6: D 0.2.* Nov. 1922 to Sept. 1923 Engr., Nielsen Packing Co., San Francisco, designing, estimating and construction of semi-mill type packing plant buildings. *TT 0.8: P 0.8: RC 0.5: D 0.3.* *TT 8.6: SP 5.6: P 3: RC 2.1: D 0.9.* Refers to W. S. Caruthers, T. F. Chace, J. W. Gross, B. M. Hall, Jr., R. McHenry.

**617 (4) NOLAN, JOHN JOSEPH**, 3947 Terrace St., Wissahickon, Philadelphia, Pa. (Age 25. Born Philadelphia, Pa.) 1925 C. E., Drexel Inst. March 1921 to date Asst. Gen. Supt., E. A. Mullen, Inc., Philadelphia, Pa., on grading of streets, putting in sewers, coal trestles, retaining walls, underpinning and stone foundations; at present Secy. *TT 4.2: SP 4.2.* Refers to J. Adler, A. Dana, F. C. Dunlap, J. S. Ely, W. H. Gravell, C. F. Puff, Jr.

**618 (11) OKEY, FRANK MORRIS**, 1315 N. Weber St., Colorado Springs, Colo. (Age 45. Born Corning, Iowa.) Licensed Civ. Engr., State of Colorado. 1904 B. C. E., Iowa State Coll. June to Sept. 1901 Officeman, Tapeman and Rodman, Chicago, Burlington & Quincy R. R. May to Sept. 1903 Inspector of concrete work in culvert construction, Chicago, Rock Island & Pacific R. R., also drafting and some transit work. Oct. 1903 to June 1904 (while student, 2 days each week) Inspector and Instrumentman on sanitary sewer and sewage disposal plant construction, Ames, Iowa. June 1904 to Aug. 1905 Mun. Contr.'s Supt. in Des Moines, Iowa, acting as Materialman, Head Timekeeper, Paymaster, Bookkeeper and had general superintendence of the business (about \$250 000 annually). *TT 3.2: SP 2.6: P 0.6.* Sept. 1905 to Nov. 1906 Inspector on paving construction, Instrumentman and Asst. Engr. on general engineering work, Locating and Res. Engr. on 7 miles of railroad construction for Kimball Eng. Co., Davenport, Iowa. *TT 1.2: SP 0.5: P 0.7: RC 0.7: D 0.5.* Jan. to Aug. 1907 Pile-Driving Inspector and Draftsman, Union Pacific R. R. *TT 0.6: SP 0.6.* Aug. 1907 to Dec. 1910 Asst. Engr., Eng. Experiment Station, Iowa State Coll., on research work in building materials, especially concrete and clay products, research in drainage, sanitation, and commercial testing of materials of construction. *TT 3.3: SP 2: P 1.3: RC 1.3: D 0.5.* Dec. 1910 to April 1911 Field Engr. on drainage surveys at Poplar Bluff, Mo., general charge of surveys and hydrographic work on about 180 000 acres; had supervision of work of three camps; ran one camp for 2 months (in absence of Chf.). *TT 0.4: P 0.4: RC 0.4.* May to Sept. 1911 Tracer and Structural Detailer, Pittsburgh-Des Moines Bridge Co., Des Moines, Iowa. *TT 0.3: SP 0.3.* Sept. 1911 to June 1912 Instructor in Structural Eng., Univ. of Illinois. *TT 0.8: P 0.8.* June to Dec. 1912 Constr. Engr., Gen. Cement-Gun Co., Chicago, on design and directing construction where the cement-gun was used. *TT 0.5: P 0.5: RC 0.5: D 0.2.* Dec. 1912 to Sept. 1914 Ill. Sept. 1914 to date Head of Civ. Eng. Dept., Colorado Coll., 2 years as Instructor, 2 years Asst. Prof., 1 year Associate Prof., and 6 years Prof. of Civ. Eng.; also had contract (past 3 years) with City of Colorado Springs, Colo., for testing of all materials of construction, principally cement, concrete and concrete aggregates, and this year has designed the concrete mixes; has done designing in concrete (reinforced) for H. I. Reid, Colorado Springs, and tests of materials and design of concrete mixtures; has been associated with E. H. Nate, Colorado Springs, in design of steelwork, and some reinforced concrete; during past 5 years has made numerous surveys of land lines, surveys for construction; etc., principally grading and landscape work. 1925 retained as Cons. Engr. of Bridges for Colorado Springs & Interurban Ry. Co.; also has private testing laboratory and does commercial testing for architects and is consulted regarding design and construction; at present carrying on research work in concrete and its materials. *TT 11:*



P 11: RC 11. TT 21.3: SP 6: P 15.3: RC 13.9: D 1.2. Refers to T. R. Agg, I. O. Baker, F. O. Dufour, L. L. Hiding, W. H. Kimball, A. Marston, E. L. Mosley, C. S. Nichols, C. W. Okey, F. O. Ray.

619 (12) OLSON, OLIFF NEIL, 219 North 23d, Corvallis, Ore. (Age 22. Born Kelso, Wash.) 1925 B. S. in C. E., Ore. State Coll. TT 2: SP 2. Refers to L. E. Brigham, G. C. Mason, B. S. Morrow, S. Murray, S. H. Sims.

620 (1) O'ROURKE, JAMES FRANCIS, 264 Seventy-ninth St., Brooklyn, N. Y. (Age 40. Born Brooklyn, N. Y.) 1908 C. E., Brooklyn Pol. Inst. Oct. 1908 to Jan 1909 Chainman, Brooklyn (N. Y.) Ash Removal Co. TT 2.2: SP 2.2. March to June 1909 Transitman, Lawrence Park Realty Co. of Bronxville, N. Y. TT 0.3: SP 0.3. July 1909 to Jan. 1918 Estimator, Draftsman and Supt., John H. O'Rourke Co., Bldrs. and Contrs., Brooklyn. TT 8.5: SP 3.5: P 5: RC 5. Jan. to April 1918 Chf. of Field Party, Westinghouse, Church, Kerr & Co., New York City, on building construction at nitrate plant, Muscle Shoals, Ala. TT 0.3: SP 0.3. April 1918 to Oct. 1919 Field Engr., Transit Constr. Comm., on subway construction in New York City. TT 1.5: SP 1.5. Oct. 1919 to date Asst. to Constr. Engr., State of New York, New Prisons Construction, Ossining, N. Y., in charge of field work, estimating, and in charge of office during absence of Constr. Engr. TT 5.5: P 5.5: RC 5.5. TT 18.3: SP 7.8: P 10.5: RC 10.5. Refers to J. P. Carlin, J. A. Rowe, C. M. Spofford, C. J. Wolfe, H. W. Woodcock.

621 (8) OSGOOD, WILLIAM R, 104 Eng. Hall, Urbana, Ill. (Age 30. Born Cambridge, Mass.) 1917 A. B., Harvard Coll. 1920 S. B., Mass. Inst. Tech. 1924 M. S., Univ. of Ill. July to Dec. 1918 Aeronautical Engr., U. S. Govt., in Research Dept., McCook Field, Dayton, Ohio, making drawings from which wind-tunnel models were constructed, analysis of lift and thrust of proposed wing sections, investigation of field of vision of convex spherical mirror, design of airplane fittings, etc. TT 2.5: SP 2.4: P 0.1: RC 0.1: D 0.1. 1920 to 1921 Asst. in Mech. Eng., Massachusetts Inst. of Technology. TT 1: P 1. 1921 to date graduate student, and Instructor in Theoretical and Applied Mechanics, Coll. of Eng., Univ. of Illinois. TT 4: P 4: RC 3. TT 7.5: SP 2.4: P 5.1: RC 3.1: D 0.1. Refers to H. Cross, M. L. Enger, M. S. Ketchum, A. N. Talbot, H. M. Westergaard.

622 (1) OSSERMAN, HERMAN AARON, 195 Brompton Rd., Garden City, N. Y. (Age 30. Born New York City.) 4 years (prior to Nov. 1917) drafting. Nov. 1917 to May 1919 Asst. to Field Constr. Officer at U. S. Engr. Headquarters, A. E. F. TT 1.5: SP 1.5. May to Sept. 1919 Draftsman, Marc Eldlitz & Sons, New York City, on building construction. TT 0.3: SP 0.3. Sept. 1919 to Sept. 1921 Asst. Engr. with Russell B. Smith, Engrs., New York City, on building design and supervision. TT 2: SP 1: P 1: RC 1. Sept. 1921 to Jan. 1923 Estimator, Felix Constr. Co., New York City, on building construction. TT 1.5: P 1.5: RC 1.5. Jan. 1923 to April 1924 Constr. Engr., with H. V. Chase, Archt., New York City, on steel and concrete design. TT 1.3: P 1.3. April to Sept. 1924 Estimator, Caye Constr. Co., Brooklyn, N. Y., on building construction. TT 0.5: P 0.5: RC 0.5. Sept. 1924 to date Estimator, Murrie & Co., Engrs., New York City, on building appraisal. TT 0.7: P 0.7: RC 0.7. TT 7.9: SP 2.8: P 5.1: RC 3.7. Refers to G. S. Bennett, J. H. Gaynor, R. E. Hall, W. K. Peasley, R. B. Smith.

623 (1) PALMER, ARTHUR CARL, 1 Liberty St., New York City. (Age 20. Born White-stone, N. Y.) 1925 C. E., Lehigh Univ. TT 2: SP 2. Refers to S. A. Becker, R. J. Fogg, M. O. Fuller, F. J. Lewis, H. G. Payrow, W. L. Wilson.

624 (1) PANTKE, CONRAD ERICH WALTER, 174 Eightieth St., Brooklyn, N. Y. (Age 33. Born Breslau, Germany.) 1921 Diplom Engr., Univ. of Danzig. Aug. and Sept. 1911 Asst. to Supt. of construction and survey, State Govt. of District Hildesheim, Germany, checking material, surveying, timekeeping. TT 2.2: SP 2.2. Feb. 1920 to April 1921 Asst. Engr. to R. Krohn, Cons. Engr., Dean of Univ. of Danzig, designing, checking, investigations, directing computations. TT 1.2: P 1.2: RC 0.5. April 1921-Oct. 1923 Designer, later Asst. Engr., Gutehoffnungshütte A. G., Germany, designing, checking, making layouts, writing specifications, directing drafting, negotiating with customers. TT 2.6: SP 0.3: P 2.3: RC 1.5. Dec. 1923 to date Designer, later Squad Leader, Elec. Bond & Share Co., New York City, designing, checking, directing computations and drafting. TT 1.5: P 1.5: RC 0.5. TT 7.4: SP 2.4: P 5: RC 2.5. Refers to L. R. Cobb, C. I. Colyer, V. F. Hammel, M. A. Rifkinson, G. H. Seybolt, H. R. Stocker, C. E. Winblad.

625 (10) PARKIN, WILLIAM AUGUSTUS KOCH, U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn. (Age 60. Born St. Louis, Mo.) 1881 to 1882 Rodman, L. R. M. R. & T. Ry., and 1882 to 1883 Rodman, St. L. I. M. & S. Ry. (now Missouri Pacific Ry.).

*TT 1.7: SP 1.7.* 1883 Levelman on preliminary survey for railroad in western Arkansas.  
*TT 0.2: SP 0.2.* 1884 Rodman, M. P. Ry. *TT 0.2: SP 0.2.* 1884 to 1885 U. S. Asst. Engr. on hydrographic surveys of Arkansas and White Rivers in Arkansas and Missouri.  
*TT 0.8: SP 0.3: P 0.5.* 1886 to 1887 Div. Engr. on construction, St. L. I. M. & S. Ry., Memphis, Tenn., to Bald Knob, Ark. *TT 2: P 2: RC 2.* 1888 to 1889 in private practice in and around Los Angeles, Cal., city and country surveying. *TT 1.3: P 1.3: RC 1.3.* 1889 to 1890 Bridge Engr. for contractors, B. C. & A. Ry. (Penn System). *TT 1.3: P 1.3: RC 1.3.* 1891 to 1910 U. S. Asst. Engr. in charge of revetment and dike construction and design on Arkansas, White and other streams; various surveys and in charge of surveys for and construction of Locks and Dams Nos. 1, 2 and 3 on Upper White River, Ark. *TT 13.3: P 13.3: RC 13.3: D 7.* 1910 to 1911 contracting river protection work; built revetment for Mo. P. Ry. 1911 to date U. S. Asst. Engr. in Little Rock Engr. Dist and since April 1922 with 1st and 2d Districts of Mississippi River Comm. at Memphis, in charge of various surveys, such as reclamation of lands in St. Francis Basin, etc., and other surveys and examinations in connection with river and harbor work; in Memphis office has charge of surveys along Mississippi River front from Cairo, Ill., to mouth of White River, Ark., and of surveys and estimates for reclamation of such lands in lower part of St. Francis and White River Basins in Arkansas as are affected by backwater from the Mississippi River; also has charge of cost and Statistics Div. which records expenditure of between \$3 000 000 and \$4 000 000 annually and analysis of same; about 5 years Chf. Clerk of U. S. Engr. Office at Little Rock. *TT 9: P 9: RC 9: D 5.* *TT 29.8: SP 2.4: P 27.4: RC 26.9: D 12.* Refers to F. R. Allen, O. G. Baxter, A. C. Butterworth, F. H. Davis, E. J. Dent, R. P. Howell, A. M. Lund, W. L. Sibert, G. A. Watkins.

626 (3) **PARSONS, MAYNARD BELDEN**, 84 Milton Ave., Ballston Spa, N. Y. (Age 26. Born Unadilla, N. Y.) 1925 B. S. in C. E., Univ. of Mich. June to Sept. 1921 and Aug. and Sept. 1923 Inspector for City of Binghamton, N. Y., on installation of boulevard lighting unit (3½ months) and on municipal pavement improvements (2 months). June to Sept. 1922 general work for Clark Constr. Co. of Binghamton on reinforced concrete creek lining contract. July-Sept. 1924 office work for Struver Constr. Co. of Ballston Spa, N. Y. *TT 2: SP 2.* Refers to A. H. Blanchard, C. S. Clark, E. H. Prentice, R. S. Swinton, W. E. Weller.

627 (9) **PATON, JAMES BLACKWOOD**, 440 South Main St., Henderson, Ky. (Age 23. Born Glasgow, Scotland.) 1925 C. E., Rens. Pol. Inst. *TT 2: SP 2.* Refers to E. R. Cary, L. W. Clark, T. R. Lawson, P. C. Ricketts, W. W. Rousseau.

628 (10) **PERKINS, HENRY HARVIE**, Lumpkin, Ga. (Age 19. Born Lumpkin, Ga.) 1925 B. S. in C. E., Ga. School Tech. *TT 2: SP 2.* Refers to R. P. Black, B. M. Hall, B. M. Hall, Jr., R. G. Lose, F. C. Snow, C. Wood.

629 (11) **PERLITER, SIMON**, 703 E. 42d St., Los Angeles, Cal. (Age 23. Born Proskurov, Russia.) 1925 B. S. in Civ. Eng., Univ. of Cal. June to Sept. 1924 Concrete Designer, Pacific Telephone & Telegraph Co., Los Angeles, Cal. *TT 2: SP 2.* Refers to R. E. Davis, C. Derleth, Jr., B. A. Etcheverry, S. T. Harding, C. G. Hyde, G. E. Troxell.

630 (11) **PICKETT, ARTHUR GORDON**, 1801 N. Hill Ave., Pasadena, Cal. (Age 23. Born Jefferson City, Mo.) Sept. 1920 to June 1922 student, Civ. Eng. course, California Inst. of Technology. *TT 0.7: SP 0.7.* Aug. 1922 to Dec. 1923 Head Chainman, Southern California Edison Co., Big Creek Development Project, traveled over the work acting in every capacity up to Chf. of Party. *TT 1.3: SP 1.3.* Feb. to Aug. 1924 Jun. Draftsman, City of Glendale, 3 months in Checking Dept., checking street-improvement plans, sewers, etc., then in charge of Mapping Dept. *TT 0.5: SP 0.5.* Feb. 1925 to date Jun. Draftsman with Los Angeles County Surveyor, designing sewers and checking plans (under Chf. Designer). *TT 0.2: P 0.2.* *TT 2.7: SP 2.7.* Refers to B. F. Dupuy, W. F. Foster, W. W. Michael, T. I. Phelps, R. B. Ray, W. K. Runyon, A. S. Zinn.

631 (9) **PLANK, EWART GLADSTONE**, 123 Parkwood Drive, Dayton, Ohio. (Age 27. Born Garden City, Mo.) 1920 U. S. Mil. Acad. 1922 C. E., Rens. Pol. Inst. June 1920 to date with Corps of Engrs., U. S. Army, as follows: June 1920 to Jan. 1921 2d Lieut. with troops at Fort Humphreys, Va.; Feb. to May 1921 2d Lieut. and 1st Lieut. with 2d Engrs., Camp Travis, San Antonio, Tex.; May 1921 to June 1922 1st Lieut.; Student at Rensselaer Polytechnic Inst.; June 1922 to date 2d Lieut. and 1st Lieut., at Eng. Div., Army Air Service, McCook Field, Dayton, Ohio, on aerial mapping in field, design of aerial mapping

cameras, and application of aerial photographs to map productions, after June 1924 in command of detachment, Corps of Engrs. *TT 7: SP 2: P 5: RC 1.5.* Refers to L. W. Clark, H. C. Fiske, T. R. Lawson, G. H. Matthes, C. H. Paul.

**632 (12) PUGSLEY, EDMOND FOLSOM**, Box 812, Seattle, Wash. (Age 41. Born St. Paul, Minn.) 1908 B. S. in E. E., Univ. of Wash. May-Aug. 1904 Rodman and Recorder, U. S. Geological Survey. March to Sept. 1905 Rodman and Topographer, Alaska Central Ry. Co. April to Aug. 1906 Draftsman, Priest Rapids Survey Co., Hanford Irrigation, locating irrigation ditch. May to Aug. 1907 Draftsman, Copper River Ry. Co., Cordova, Alaska, on location. *TT 2.2.* Dec. 1908 to Sept. 1918 Engr. of outside plant, Pacific Telephone & Telegraph Co., Seattle, Wash., on design and supervision of outside plant construction, mostly in Western Washington; supervised construction of more than \$1 000 000 worth of work. *TT 9.8: RC 9: D 0.8.* Oct. 1918 to Feb. 1919 Expeditor, Constr. Div., U. S. Army, in charge of wood-pipe construction in the Northwest. *TT 0.4: RC 0.4.* March 1919-July 1922 independent inspection work, foreign trade and short time Asst. Engr., Continental Pipe Mfg. Co. Aug. 1922 to date Vice-Pres. and Gen. Mgr., Cascade Pipe & Flume Co. (designs and builds water systems and pipe lines), engineering and contracting, water-works, irrigation and power; work involves many phases of engineering both on design, construction, etc., of engineering work. *TT 2.5: RC 2.5. TT 12.9: RC 11.9: D 0.8.* Refers to M. Chase, H. L. Gray, L. M. Holt, J. Jacobs, J. L. Lytel, C. E. Magnusson, C. C. More.

**633 (15) QUENTIN, WILLIAM JOHN**, Chihuahua, Mexico. (Age 39. Born Livadia, Crimea, Russia.) 1902 to 1904 and 1905 to 1906 student, Acad. of Mil. Eng., Moscow, Russia graduating as Staff Capt. 1904 to 1905 in charge of maintenance of Div. of Trans-Balkal R. R. during Japanese War, and 1906 to 1908 on construction on extension of Trans-Balkal Roads and Railroads. *TT 5: SP 3: P 2: RC 1.* 1908 to 1909 on road and water-supply engineering in Russian Turkestan. *TT 1: P 1: RC 1.* 1909 to 1910 in charge of Ballistics at the Target at Putilov Gun Factory, Russia (invalided out of Imperial Russian Army). *TT 1.5: P 1.5: RC 1.5.* 1910 to 1913 river control work, British Crown Colony of Nigeria, Benue Dist. *TT 2.5: P 2.5: RC 1.* 1913 to 1914 post-graduate student, Battersea Polytechnic Inst., London, electricity and organic chemistry. *TT 1: SP 1.* 1914 to 1922 in Canada studying methods of photographic surveying, and after 1917 with A. E. F., in France, etc.; at present holds commission in O. R. C. 1922-1924 on preparation of stereoaerographic surveys, Chihuahua, Mexico. *TT 2: P 2: RC 2. TT 13: SP 3: P 10: RC 4.5: D 2.* (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

**634 (13) QUICK, PHILLIP RUSSELL**, 2174 University Ave., Berkeley, Cal. (Age 23. Born North Bloomfield, Cal.) 1925 B. S., Coll. of Civ. Eng., Univ. of Cal. May to Aug. 1923 Partyman in Surveying Party, Southern Pacific Co. *TT 2: SP 2.* Refers to A. C. Alvarez, R. E. Davis, C. Derleth, Jr., B. A. Etcheverry, F. S. Foote, C. G. Hyde.

**635 (1) QUISLING, ARNE**, 36 Garden Pl., Brooklyn, N. Y. (Age 26. Born Drammen, Norway.) 1921 C. E., Norway's Inst. Tech. Oct. to Dec. 1923 Draftsman, bridge work, with D. Steinman, New York City. *TT 2.2: SP 2.2.* Dec. 1923 to Sept. 1924 Draftsman, building construction, with Th. Murray. *TT 0.8: SP 0.8.* Sept. 1924 to date Draftsman and computations, bridge work, with G. Lindenthal. *TT 0.8: SP 0.8. TT 3.7: SP 3.7.* Refers to A. P. Andersen, W. A. Cuenot, F. A. Ericson, G. Lindenthal, D. B. Steinman.

**636 (15) RAFFERTY, JOHN HERBERT**, Care, Howe & Wise, 1st Nat. Bank Bldg., Houston, Tex. (Age 29. Born Everett, Mass.) 1920 B. S. in Civ. Eng., Tufts Coll. June to Sept. 1916 Draftsman, Board of Revaluation, City of Cambridge, Mass. *TT 2.2.* May to Oct. 1918 Asst. Res. Engr., Massachusetts Highway Dept., on construction of part of Atlantic Highway, Rowley, Mass. Oct. to Dec. 1918 Instructor in Military Surveying, S. A. T. C., Tufts College, Mass. July to Sept. 1920 Res. Engr., City of Lynn, Mass., on permanent paving of Western Ave. *TT 0.2: RC 0.2.* Sept. 1920 to date Instructor in Civ. Eng., Rice Inst., Houston, Tex., Mun. Eng. and Surveying; also Engr. of Tests, Rice Inst., materials testing (June to Sept. 1921), Gravel Paving Investigating Committee, Houston (Aug. to Oct. 1923), and Harris and Fort Bend Counties, Tex., physical examination of concrete, analysis of water, etc. (June to Sept. 1924). Also May to Oct. of years 1922 and 1923 Res. Engr., Howe & Wise, Houston, residential additions, Brady Place and Woodleigh; Feb. to June 1924 Street and Bridge Commr., Town of West University Place, Tex. (defacto government), on design of drainage system; Jan. 1925 to date Town Engr., same Town, resurfacing streets, general municipal supervision. March 1925 to date Cons. Engr., City of Magnolia Park, Tex., on storm and sanitary sewers, streets and water-works (\$700 000 bond issue), and

on development of second addition to West University Place, sidewalks, water-works and sanitary sewers (April 1925 to date). *TT 4.8: RC 1.4: D 0.3. TT 7.3: RC 1.6: D 0.3.* Refers to H. P. Burden, C. H. Kendall, J. C. McVea, E. H. Rockwell, A. J. Wise.

**637 (10) RAMSAY, ERSKINE**, Birmingham, Ala. (Age 60. Born Six Mile Ferry, Pa.) 1883 M. Acct., St. Vincent's Coll., Beatty, Pa. 1925 LL.D., Howard Coll., Birmingham, Ala. 1883 to 1885 Supt. and Engr., Monastery Mines and Coke Works, H. C. Frick Coke Co., near Latrobe, Pa. *TT 1.5: RC 1.5: D 1.5.* 1885 to 1886 Gen. Supt. and Engr., of all mines and coke plants of Morewood Coke Co. (latter part of time Company merged with South West Coal & Coke Co.) (five plants in Mount Pleasant Dist. of Connellsville Coke Region). *TT 1.5: RC 1.5: D 1.5.* 1886 to 1887 Constr. Engr., H. C. Frick Coke Co., at Mount Pleasant, Pa. *TT 1: RC 1: D 1.* 1887 to 1902 with Tennessee Coal, Iron & R. R. Co., until 1893 as Min. Engr., Pratt Mines Div.; 1893 and 1894 Supt. and Engr. of same Div., and 1894 also Chf. Engr. of the Company, and 1895 to 1902 Chf. Engr. and Asst. Gen. Mgr. of the Company. *TT 15: RC 15: D 15.* 1902 to 1925 First Vice-Pres. and Chf. Engr., Pratt Consolidated Coal Co. and at present Director and Chf. Cons. Engr., Alabama By-Products Corporation (former merged with latter in 1925). *TT 23: RC 23: D 23.* Has been active in development and improvement of many coal ore mine, coke oven and blast furnace improvements, including among others, plans of mine development; mining and conveying plants; mine cars and haulage; rotary dumps of single and multiple types; swivel couplings for dumping cars without uncoupling; dumping whole trip without uncoupling trip from motive power or cars from each other, notable installation of these dumpers being in recent H. C. Frick Coke Co.'s twin rotaries (each 400-ft. long); mine car coal samplers; continuous plate feeders; single- and double-deck shaking screens used at bituminous coal mines, etc.; patented many of these devices and others. During large part of past 25 years and at present in engineering and executive lines with Tennessee Consolidated Coal Co., New Castle Coal Co., and other companies. *TT 42: RC 42: D 42.* Refers to W. B. Allen, H. N. Eavenson, G. W. Hutchinson, F. M. Joy, J. W. Kendrick, M. Knowles, P. L. Pierce, J. R. Pill, J. S. Sewell, R. L. Totten.

**638 (3) RANDALL, SPENCER BURNETT**, City Hall, Gloversville, N. Y. (Age 34. Born Sylvan Beach, N. Y.) Jan. 1912 to Sept. 1913 on Barge Canal, New York State, as Instrumentman and Inspector in charge of spillway apron construction, and charge of steel and concrete construction on stairways, main bridge Contr. No. 4. *TT 0.8: SP 0.4: P 0.4: RC 0.4.* Oct. 1913 to May 1914 with U. S. Army, at McAlester, Okla., in charge of laying out subdivisions on segregated coal lands. *TT 0.6: P 0.6: RC 0.6.* May 1914 to Feb. 1915 with Q. R. & D. R. R. Co., Belton, Tex., as Instrumentman on location taking topography, Locating Engr., office mapping and design. *TT 0.8: SP 0.4: P 0.4: RC 0.3: D 0.2.* March 1915 to Jan. 1920 Engr., City of Dallas, Tex., in charge of surveys and of paving design. *TT 5: P 5: RC 5: D 2.* Jan 1920 to May 1922 in private practice as Engr. at Dallas, on design of irrigation project with dam for Joyce Cattle Co., Clayton, N. Mex.; in charge of construction of oil tanks (\$75 000), Wichita Falls, Tex., for Paragon Oil Co. *TT 1.4: P 1.4: D 0.5.* May to Oct. 1922 Inspector on construction of paving and storm and sanitary sewers, City of Dallas. *TT 0.5: SP 0.5.* Nov. 1922 to date Asst. City Engr., Gloversville, N. Y., making plans for and in charge of laying out paving and sewer construction, and in charge of drawing maps of new assessment of the city. *TT 2.5: P 2.5: RC 2.5 TT 11.6: SP 1.3: P 10.3: RC 8.8: D 2.7.* Refers to G. D. Fairtrace, H. J. Hanmer, W. J. Powell, M. Vrooman, F. J. Wagner, G. G. Wickline.

**639 (1) REDINGTON, THOMAS GREGORY**, 36 Bank St., New York City. (Age 44. Born Rutland, Vt.) Aug. 1900 to Oct. 1903 Chainman, Rodman, Instrumentman, Draftsman, Masonry Inspector, appraising, Rutland R. R. *TT 3.2: SP 3.2.* Oct. 1903 to April 1906 Draftsman, New York Central R. R. *TT 2.5: SP 2.5.* May 1906 to March 1908 Book-keeper, Office Mgr., Designer of Machinery and Traveling Salesman, Globe Machine & Stopper Co. *TT 1.8: SP 0.8: P 1: RC 0.8: D 0.2.* March 1908 to Aug. 1910 supervision of installation of fire-prevention equipment, inspections, Metropolitan St. Ry. Co. *TT 2.4: SP 0.4: P 2: RC 1: D 0.4.* Aug. 1910 to Sept. 1912 with American Fire Prevention Bureau, on same work, also layouts for construction of hat factory at Danbury, Conn. *TT 2.1: P 2.1: RC 0.4: D 0.6.* Oct. 1912 to Dec. 1914 with Public Service Comm. as Inspector of masonry, inspection and reports on 1 000 buildings along Lexington Ave. subway, recommendations for correction of dangerous features of adjacent buildings. *TT 2.2: P 2.2: RC 2.2.* Jan. 1915 to Sept. 1916 Res. Mgr., Boston-Berkshire Composite Brick Co., drawing up specifications, letting contracts, purchase of equipment, supervision of whole project. *TT 1.7: P 1.7: D 1.7.* Sept. 1916 to Feb. 1918 Draftsman, checking land valuation maps, N. Y. C. R. R. *TT 1.4: P 1.4.* Feb. to Sept. 1918 Asst. Engr., Central Romana, installing



drainage ditches, culverts and bridges, designing cane-loading and unloading equipment. *TT 0.6: P 0.6: D 0.2.* Sept. 1918 to July 1923 with Dept. of Public Works, as Gen. Supt. of Constr., National leper and penal institutions, schoolhouses, repairs to Govt. buildings and structures, Asst. Engr. on highway construction and 200 km. location. *TT 4.8: P 4.8: RC 2.2: D 1.2.* Sept. 1923 to June 1924 Valuation Engr., The Bartlett Hayward Co., inventorying and appraising properties of Brooklyn Union Gas Co. *TT 0.7: P 0.7.* June 1924 to Feb. 1925 Valuation Engr., United Elec. Light & Power Co., inventorying and appraising properties under J. L. Murrie & Co. *TT 0.7: P 0.7.* March 1925 to date Asst. Engr., The Barrett Co., inventorying and appraising properties at Philadelphia and Bethlehem, Pa., Kearny, N. J., and New York City. *TT 0.3: P 0.3. TT 24.4: SP 6.9: P 17.5: RC 6.6: D 4.3.* Refers to N. M. Collier, H. H. Pitcairn, G. S. Rinehart, E. W. Ritchie, C. D. Searle, J. R. Spelman, L. H. Walker.

640 (6) RICHARDSON, GEORGE SHERWOOD, 171 Mound St., Fair Oaks, Pa. (Age 29. Born Georgetown, Colo.) 1920 B. S. in C. E., Univ. of Colo. June to Sept. 1920 Instrumentman, Wyoming Highway Dept. *TT 2.2: SP 2.2.* Sept. 1920 to June 1921 Instructor, Dept. of C. E., Towne Sci. School, Univ. of Pennsylvania. *TT 0.8: P 0.8: RC 0.2.* June to Nov. 1921 Chf. of Party, Pennsylvania State Highway Dept., on location of line, establishment of grades and final construction survey on 7 miles of concrete highway. *TT 0.4: P 0.4: RC 0.4.* April to June 1922 Detailer, McClintic-Marshall Co., Rankin Plant. *TT 0.2: SP 0.2.* June 1922 to April 1924 Detailer, American Bridge Co., Ambridge Plant, ordering material, laying out, and detailing on bridges, buildings, coal bins, etc. *TT 1.8: SP 1.8.* April 1924 to date in County Engr.'s office, Allegheny County, Pittsburgh, Pa., until Jan. 1925 as Structural Draftsman, and since then Asst. Designer on preliminary and final designs and estimates for county bridges; 6 months on design of two bridges for Monongahela River (estimated cost \$2 325 000 and \$3 770 000). *TT 1: SP 0.5: P 0.5: RC 0.5: D 0.5. TT 6.4: SP 4.7: P 1.7: RC 1.1: D 0.5.* Refers to C. M. Canady, V. R. Covell, C. L. Eckel, J. C. Jordan, M. S. Ketchum, R. G. Manning.

641 (15) RITTGERS, VIRDEN ACIE, Care, V. V. Long & Co., 1300 Colcord Bldg., Oklahoma City, Okla. (Age 22. Born McCloud, Okla.) June to July 1922 Rodman and Chainman and June 1923 Rodman, Chainman and Instrumentman with H. C. Adams, County Surveyor of Oklahoma County. *TT 0.2: SP 0.2.* July to Sept. 1922 Rodman, Chainman and Instrumentman with Moore & McClure, Civ. Engrs., Oklahoma City, Okla. *TT 0.2: SP 0.2.* Sept. 1922 to June 1923 and Sept. 1924 to June 1925 student, Coll. of Eng., School of Civ. Eng., Univ. of Oklahoma. *TT 0.6: SP 0.6.* June 1923 to April 1924 with Oklahoma State Corporation Comm. as Member of field party on valuation of Oklahoma Natural Gas Co.'s Property, on inventory of compressor stations and gas distribution systems, and (2½ months) computing bills of material on structures and pipe lines, part of time Asst. Chf. of Party. *TT 0.8: SP 0.8.* April 1924 to date with V. V. Long & Co., Oklahoma City, 1 month as Instrumentman on preliminary water-works surveys, 4½ months Res. Engr. in full charge of concrete paving (\$85,000), and since Sept. 1924 (one-half of time, while student at Univ. of Oklahoma) Draftsman in office. *TT 0.5: SP 0.1: P 0.4. TT 2.3: SP 1.9: P 0.4.* Refers to E. B. Black, L. M. Bush, E. H. Dunmire, V. V. Long, H. W. Nighswonger.

642 (10) ROBERTS, CLIFFORD JAMES, Box 1315, Savannah, Ga. (Age 21. Born Savannah, Ga.) 1925 B. S. in C. E., Ga. School Tech. *TT 2: SP 2.* Refers to R. P. Black, B. M. Hall, Jr., J. H. Johnston, F. C. Snow, C. M. Wood.

643 (11) ROOK, ROSS HENRY, 894 So. Windsor Blvd., Los Angeles, Cal. (Age 44. Born Youngstown, Ohio.) 1902-1906 student, Case School of Applied Science and Stanford Univ. June to Aug. 1905 with D. B. Harrison Co., New York City, in charge of mining surveys near Hawthorne, Nev. *TT 0.2: P 0.2: RC 0.2: D 0.1.* Aug. 1906 to March 1910 Asst. Engr. and Draftsman, City of Los Angeles, Cal., Asst. in Field Dept. *TT 3.6: P 3.6: RC 2.5.* March 1910 to Nov. 1919 Asst. Engr. with City Engr., in Constr. Dept. in charge of office and inspection (5½ years) in Street Designing Dept. (over 1½ years) and in San. Sewer Designing Dept. (2½ years). May to Dec. 1917 1st Lieut., Engrs., U. S. Army. *TT 9.6: P 9.6: RC 5.7: D 3.8.* Nov. 1919 to Aug. 1923 Inspector of Public Works, City of Los Angeles, in full charge of all construction. *TT 3.8: P 3.8: RC 3.8: D 3.8.* Aug. 1923 to Aug. 1924 in private practice. *TT 1: P 1: RC 1: D 1.* Aug. 1924 to date Inspector of Public Works, City of Los Angeles. *TT 0.8: P 0.8: RC 0.8: D 0.8. TT 19: P 19: RC 14: D 9.5.* Refers to R. H. Bacon, M. Butler, F. H. Joyner, W. T. Knowlton, C. L. McKesson, H. Z. Osborne, C. S. Pope, C. J. Shults, R. W. Stewart, H. A. Van Norman.

**644 (10) ROSENBERGER, RAYMOND JOYCE**, Woolsey, Asheville, N. C. (Age 23. Born Chicago, Ill.) 1925 B. S. in Civ. Engr., Univ. of N. C. April 1922 to date (vacations and 1 year co-operative work) Rodman, Inspector and Instrumentman with Charles E. Waddell, Cons. Engr., Asheville, N. C.; since June 1924 on surveying and general engineering work for the University, the Town of Chapel Hill and residences. *TT 2: SP 2.* Refers to G. M. Braune, T. F. Hickerson, J. B. Hutchings, Jr., T. Saville, P. K. Schuyler, C. E. Waddell, D. M. Williams.

**645 (9) ROSS, ALBERT WARD, Jr.**, 1494 Bryden Rd., Columbus, Ohio. (Age 21. Born Columbus, Ohio.) 1925 B. C. E., Ohio State Univ. June to Sept. 1923 surveying, staking out streets, sewers, etc., and June to Sept. 1924 Transitman, topographic surveying, level, transit and stadia work, with D. B. Sayers, Columbus, Ohio. *TT 2: SP 2.* Refers to C. C. Clement, F. H. Eno, C. T. Morris, J. C. Prior, J. R. Shank, R. C. Sloane.

**646 (11) ROTH, PAUL**, 1044 Fries Ave., Wilmington, Cal. (Age 48. Born Kenyon, Minn.) 1904 Civ. Engr., Univ. of Minn. June 1904 to May 1905 Draftsman, Am. Bridge Co., Minneapolis, Minn. *TT 2.9: SP 2.9.* May 1905 to Dec. 1922 with U. S. Reclamation Service on North Platte Project, Nebraska-Wyo., as follows: May 1905 to Sept. 1910 Rodman, Instrumentman, Draftsman, Inspector and general utility man; Sept. 1910 to Sept. 1911 Supt. in charge of operation and maintenance of first 45 miles of main canal; Sept. 1911 to Sept. 1912 Engr. in Chg. of construction of two earth dams (each about 2 500 ft., maximum height 28 ft.); Sept. 1912 to March 1913 Office and Field Engr. on O. & M.; March 1913 to Dec. 1922 Irrigation Mgr. in charge of operation and maintenance on the Project (approx. 130 000 acres of irrigable land with about 800 miles of canals). *TT 17.7: SP 5.9: P 11.8: RC 11.8: D 1.0.* Dec. 1922 to May 1923 with Imperial Irrigation Dist. of California, assisting with absorption of the 14 mutual water companies. *TT 0.4: SP 0.4.* May to July 1923 in charge of survey of Salton Sea and report of same. *TT 0.2: P 0.2: RC 0.2.* July 1923 to April 1925 Supt. in charge of operation and maintenance on a division of Imperial Irrigation Dist. comprising 75 000 acres of irrigable land with 515 miles of canal. *TT 1.8: P 1.8: RC 1.8.* April 1925 to date with City of Los Angeles on sewer designs at Wilmington Office. *TT 0.2: P 0.2: D 0.2. TT 23.2: SP 9.2: P 14: RC 13.8: D 1.2.* Refers to R. S. Carberry, J. H. Childs, B. Dibble, D. W. Murphy, F. D. Pyle, A. Weiss.

**647 (1) ROUNTHWAITE, FRANCIS GEORGE**, Tuckers Town, Bermuda. (Age 33. Born Collingwood, Ont., Canada.) 1916 B. Sc. (Civ.), McGill Univ. May to Sept. 1913 Rodman, Algoma Central & Hudson Bay Ry. May 1916 to June 1919 overseas with Canadian Artillery. June to Sept. 1919 Asst. to County Engr., Stormount County, Cornwall, Ont., Canada. *TT 2.4: SP 2.2: P 0.2: RC 0.2.* Sept. 1919 to Jan. 1920 on building construction, Atlas Constr. Co., Montreal, Que., Canada. *TT 0.4: SP 0.2: P 0.2: RC 0.2.* Jan. 1920 to Aug. 1921 Asst. to J. B. Berry, Cons. Engr., Grand Trunk Ry. Valuation, Montreal. *TT 1.5: P 1.5: RC 1.5: D 1.* Sept. 1921 to date in charge of development, Bermuda Development Co., road construction, water supply system, building construction, etc. *TT 3.5: P 3.5: RC 3.5: D 3. TT 7.8: SP 2.4: P 5.4: RC 5.4: D 4.* Refers to W. N. Brown, A. Crumpton, A. S. Goling. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

**648 (1) RUSSUM, THOMAS FRENCH**, 12 Seneca Ave., White Plains, N. Y. (Age 51. Born Elizabeth, N. J.) 1895 B. S., Rutgers Coll. Nov. 1895 to June 1896 Layerout, Keystone Bridge Co., Pittsburgh. *TT 2.6: SP 2.6.* June 1896 to April 1897 Draftsman in Bldg. Dept., Carnegie Steel Co., Pittsburgh. *TT 0.8: SP 0.8.* April 1897 to May 1898 Draftsman, Union Bridge Co., Athens, Pa. *TT 1.1: SP 1.1.* May to Nov. 1898 Draftsman, Clinton (Iowa) Bridge & Iron Works. *TT 0.5: SP 0.5.* Nov. 1898 to Nov. 1899 Draftsman with Purdy & Henderson, Cons. Engrs., New York City. *TT 1: SP 1.* Nov. 1899 to Nov. 1900 with New York Central R. R., until March 1900 as Draftsman, Bridge Dept., New York City; then Supervisor of Bridges and Bldgs., West Shore Div., Kingston, N. Y. *TT 1: SP 0.3: P 0.7: RC 0.7.* Nov. 1900 to May 1917 with Purdy & Henderson, until June 1904 as Checker, Designer and Squad Boss, at New York City; then Mgr., Chicago Office. *TT 16.5: P 16.5: RC 2: D 14.5.* June 1917 to date Engr., Asst. to Mr. Chambers, Jarrett-Chambers Co., Inc., New York City. *TT 7.9: P 7.9: D 7.9. TT 31.4: SP 6.3: P 25.1: RC 2.7: D 22.4.* Refers to R. H. Chambers, C. M. Denise, O. E. Hovey, E. S. Jarrett, C. T. Purdy, A. F. Reichmann, L. E. Ritter, J. J. Yates.

**649 (4) RUTHERFORD, JAMES BAILIE**, Millerton, Pa. (Age 33. Born Paterson, N. J.) 1914 B. S., Va. Mil. Inst. 1919 to 1920 Rodman, U. S. Army Camp, Tobyhanna, Pa. (over 2 months); Foreman and Engr., R. D. Richardson Constr. Co., Scranton, Pa. (6 months).

**TT 2.7: SP 2.7.** 1920 to 1923 with Pennsylvania State Highway Dept., Dist. No. 12, Scranton. **TT 3: SP 3.** 1923 to 1924 Asst. Supt., and 1924 to date Supt., R. D. Richardson, Constr. Co. **TT 2.5: SP 1: P 1.5: RC 1.5.** **TT 3.2: SP 6.7: P 1.5: RC 1.5.** Refers to W. E. Bailey, R. D. Richardson, G. P. Searlight, H. D. Stoll, P. M. Tebbas.

**650 (10) SAMUEL, PHILIP TUSTIN,** U. S. Engr. Office, Florence, Ala. (Age 41. Born Knoxville, Tenn.) 1918 to date with U. S. Engr. Office, Florence, Ala., 3½ years as Purchasing Agt. for construction material and equipment for Wilson Dam, and past 2 years Asst. Chf. of Supply Div., in charge of purchase, transportation and storage of material and equipment for Wilson Dam, and preparation of specifications and contracts. **TT 5.5.** Refers to M. Elliott, T. A. Forbes, S. C. Godfrey, J. W. Hall, R. B. McWhorter, G. L. Smith, M. C. Tyler.

**651 (1) SANDS, ROBERT LAWRENCE,** 155 Weldon St., Brooklyn, N. Y. (Age 31. Born New York City.) Licensed Prof. Engr., State of New York. 3½ years student, Columbia Univ. and Coll. of City of New York. Feb. 1914 to March 1916 Rodman, Transitman and Draftsman with Charles M. Mapes, field work, drafting and computations for city surveys; lines and grades for miscellaneous construction. **TT 2.1: SP 2.1.** March 1916 to June 1917 Rodman and Computer, New York Municipal R. R. Corporation. **TT 1.2: SP 1.2.** June to Nov. 1917 Jun. Asst. Engr., Public Service Comm., New York City, field and office work on subway and tunnel work; in charge of field party producing lines and grades. **TT 0.4: SP 0.2: P 0.2: RC 0.2.** Nov. 1917 to May 1920 Draftsman, Transitman and Valuation Engr., New York Central R. R., Div. Engr.'s office, on yard and main line track and building design and maintenance; valuation of track, buildings and property for Interstate Commerce Comm. **TT 2.5: SP 1: P 1.5: RC 1.5: D 1.5.** May 1920 to date with New York Edison Co., as Asst. to Civ. Engr. in design, supervision of sub- and generating station construction and problems of construction in maintaining buildings and properties. **TT 5: P 5: RC 5: D 5.** **TT 11.2: SP 4.5: P 6.7: RC 6.7: D 6.5.** Refers to G. A. Hughes, C. M. Mapes, G. J. Meise, G. A. Orrok, E. M. Van Norden.

**652 (4) SAX, PERCIVAL MOSLEY, Jr.,** 6429 Drexel Rd., Philadelphia, Pa. (Age 23. Born Philadelphia, Pa.) 1922 C. E., Rens. Pol. Inst. June to Sept. 1922 Shop Inspector, Pencoyd Plant, Sept. 1922 to Dec. 1924 Draftsman, Pencoyd Drawing Room, and Dec. 1924 to date Field Engr., Delaware River Bridge, American Bridge Co. **TT 3: SP 3.** Refers to H. W. Bosler, F. L. Castleman, J. B. Gemberling, P. C. Ricketts, P. M. Sax.

**653 (1) SCHADICK, CAMPBELL FREDERICK,** Westport, New Zealand. (Age 26. Born Westport, New Zealand.) March to Aug. 1917 Chainman with his father J. Schadick, Civ. and Min. Engr., Westport, New Zealand. **TT 0.5: SP 0.5.** Aug. 1917 to Dec. 1918 with New Zealand Expeditionary Force. Jan. to June 1919 Rodman, Public Works Dept., New Zealand. **TT 0.5: SP 0.5.** July to Dec. 1919 Instrumentman to J. Schadick, on engineering survey, Cape Foulwind-Charleston Ry. **TT 0.5: SP 0.5.** Jan. to March 1920 in charge of boring operations, Charleston Coal Fields. **TT 0.2: P 0.2: RC 0.2.** April to Aug. 1920 Asst. Engr., Buller County. **TT 0.4: P 0.4.** Sept. to Dec. 1920 Engr. to Mokihinui-Westport Coal Mines, Ltd. **TT 0.3: P 0.3: RC 0.3.** Jan. to Dec. 1921 Engr. in Chg., Buller County; Cons. Engr., Mokihinui-Westport Coal Mines, Ltd. **TT 1: P 1: RC 1.** Jan. 1922 to April 1925 Engr. in charge of all works, roads, bridges, sanitation works, etc., in Buller County. **TT 3.4: P 3.4: RC 3.4.** **TT 6.9: SP 1.5: P 5.4: RC 5.** Refers to C. N. Boulton, J. E. Fulton. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

**654 (2) SHANKLIN, GEORGE ROBERT,** 38 Kilby St., Boston, Mass. (Age 24. Born Shepherdsville, Ky.) 1922 C. E., Cornell Univ. Sept. 1922 to Feb. 1923 Asst. Civ. Engr., Barahona Centrale, drainage investigation and location as Fieldman; Constr. Engr. for a section of irrigation system. **TT 2.5: SP 2.5.** Feb. 1923 to March 1925 Asst. Civ. Engr., Central Romana, computation of surveys and railroad estimates, Levelman, Topographer and Field Officerman for railroad preliminary, Transitman for land investigation, Chf. of Property Survey Party. **TT 2.1: SP 1.5: P 0.6: RC 0.3.** **TT 4.6: SP 4: P 0.6: RC 0.3.** Refers to F. A. Barnes, E. N. Burrows, C. Crandall, H. N. Ogden, L. C. Urquhart.

**655 (15) SHAW, CLIFTON RAYMOND,** 121 Garfield St., Lafayette, La. (Age 28. Born Weatherford, Tex.) 1920 B. S. (in Civ. Eng.), Rice Inst. June 1920 to date with Southern Pacific R. R. as follows: June to Sept. 1920 Cost Data Engr., Valuation Dept., at Houston, Tex., segregating charges out of old construction ledgers into various Interstate Commerce Comm. Classification of Accounts for railroads; Sept. 1920 to Sept. 1921 combination Instrumentman-Draftsman at New Orleans, La., made track layouts, drafted plans and estimated

costs of new work; Sept. 1921 to Oct. 1923 Head Instrumentman, Lafayette (La.) Div., in charge of field parties, making surveys, reports and investigations, also drafting and supervised estimating of costs; since Oct. 1923 Office Engr. at Lafayette, responsible for surveys, reports, investigations, drawings and estimating of costs, having supervision of field engineers. *TT 6.9: SP 5.4: P 1.5: RC 1.5.* Refers to M. M. Bernard, C. C. Crew, E. L. Hawkins, J. Lansdale, L. B. Ryon, Jr.

**656 (3) SHERIDAN, HOWARD AUGUSTUS**, 423 Sackville St., Toronto, Ont., Canada. (Age 24. Born Elizabeth, N. J.) 1925 B. S. in C. E., Univ. of Mich. *TT 2: SP 2.* Refers to J. H. Cissel, L. M. Gram, W. C. Hoad, H. E. Riggs, R. H. Sherlock, C. O. Wisler.

**657 (3) SHULITS, SAMUEL**, 540 Federal Bldg., Buffalo, N. Y. (Age 22. Born Lawrence, Mass.) 1924 S. B., Mass. Inst. Tech. July to Sept. 1923 and June to Oct. 1924 Eng. Asst., Div. of Highways, Massachusetts Dept. of Public Works; Inspector and Res. Engr. on construction of bituminous macadam road in Burlington, Mass. (over 2 months), and (last 4 months) of plutonic pavement in Lowell, Mass., concrete road in No. Chelmsford, Mass., and bituminous macadam road in No. Chelmsford and Tyngsboro, Mass. *TT 2.3: SP 2.3.* Oct. 1924 to date Inspector and Eng. Asst., U. S. Engr. Office, Buffalo, N. Y.; Eng. Asst. on efficiency tests of hydro-electric units, studies of river hydraulics, supervision of operations of water power plants under license of Federal Water Power Comm., and miscellaneous hydraulic work. *TT 0.5: SP 0.5. TT 2.8: SP 2.8.* Refers to H. K. Barrows, L. L. Davis, J. W. Howard, L. B. Hoyt, P. S. Reinecke, C. M. Spofford.

**658 (10) SINGLETON, MICAJAH THOMAS**, 1404 Candler Bldg., Atlanta, Ga. (Age 33. Born Arcadia, Fla.) 1909 to 1910 Instrumentman, Pigeon Mt. Iron Co., topographical surveying, underground surveying and railroad location. *TT 1.6: SP 1.6.* 1910 to 1911 Student, Georgia School of Technology. *TT 0.3: SP 0.3.* 1911 to 1912 Instrumentman and Draftsman, Solomon-Norcross Co., topographical surveys, highway work, hydro-electric development, sewers, and land subdivision. *TT 1.5: SP 1.5.* 1912 to 1913 with Northern Contr. Co. (N. Georgia Power Co.), as Instrumentman, hydro-electric development surveys, location and construction H. T. transmission lines, Res. Engr. on building construction and H. T. substations. *TT 1.1: SP 1.1.* 1913 land subdivision, Solomon-Norcross Co. *TT 0.3: SP 0.3.* 1913 to 1917 with Georgia Ry. & Power Co., on location and construction of H. T. transmission lines, substations, etc., hydro-electric development, railroad location, purchase of right of way. *TT 3.5: SP 1.5: P 2: RC 1.* 1917 to 1919 1st Lieut. and Capt., U. S. Engrs., overseas with 2d Engrs., 2d Div. (1 year). *TT 1.7: P 1.7: RC 1.4.* 1919 to 1921 with Lockwood, Greene & Co., on investigations and reports, hydro-electric development, surveys and design for industrial development; Res. Engr., mill construction. *TT 1.5: P 1.5: RC 1.5: D 0.5.* 1921 to 1922 with Norcross & Kles, as Res. Engr. on sewer construction, reports and design of water supply and sewage projects. *TT 0.7: P 0.7: RC 0.7: D 0.3.* 1922 to 1925 with Paul H. Norcross, on investigations, reports, design and construction of water supply and sewer projects, filtration plants, water power development, valuation of public utilities; since the death of Mr. Norcross carrying on the business with H. F. Wiedeman, Prin. Asst. Engr. *TT 3.5: P 3.5: RC 3.5: D 3.5. TT 15.7: SP 6.3: P 9.4: RC 8.1: D 4.3.* Refers to H. S. Gibboney, B. M. Hall, B. M. Hall, Jr., F. J. Kels, F. H. McDonald, G. R. Solomon, H. F. Wiedeman.

**659 (4) SMITH, STANLEY RINEAR**, 1809 N. 12th St., Philadelphia, Pa. (Age 42. Born Philadelphia, Pa.) Took special courses at International Correspondence School, Scranton, Pa., and Drexel Inst. and Temple Coll., Philadelphia, Pa. April 1903 to June 1904 Tracer, drafting and computing, Philadelphia Rapid Transit Co. *TT 1.2: SP 1.2.* June to Nov. 1904 Draftsman, detailing structural steelwork, American Bridge Co., Penciloyd, Pa. *TT 0.5: SP 0.5.* Nov. 1904 to Oct. 1912 Civ. Eng. Draftsman, Philadelphia Rapid Transit Co., designing, drafting and computing, until June 1909 on subway and elevated railway design; then on subway and street railway special track work; alignment, profile, mapping for present and projected railway lines. *TT 8: P 8: D 4.4.* Oct. 1912 to Aug. 1916 Civ. Eng. Draftsman, Transit Comm. and Dept. of City Transit, Philadelphia, designing, covering all work incidental to study and design of subway, elevated and surface railways, and later on alignment, profile and track installation. *TT 3.8: P 3.8: D 3.8.* Aug. 1916 to date Asst. Engr., Dept. of City Transit, until Aug. 1924 designing and supervising, alignment, profile and track installation, and general studies for subway, elevated and surface railways; since then in charge of alignment, profile and track installation; designing and supervising. *TT 3.7: P 3.7: RC 4.3: D 4.3. TT 22.2: SP 1.7: P 20.5: RC 4.3: D 12.5.* Refers to S. Harris, J. J. L. Houston, L. B. Manley, T. N. Spencer, C. H. Stevens, S. M. Swaab.



**660 (14) STRATFORD, CLARK OLIVER**, 504 S. Denver St., El Dorado, Kans. (Age 24. Born Roseburg, Ore.) 1925 B. S. in C. E., Kans. State Agrl. Coll. June to Sept. 1921 Rodman, City of El Dorado, Kans. June to Sept. 1922 Rodman, Butler County, Kans. June to Sept. 1923 Draftsman, Skelly Oil Co. June to Sept. 1924 Testing Engr., road materials, State Road Testing Laboratory. *TT 2: SP 2*. Refers to L. E. Conrad, F. F. Frazier, M. W. Furr, C. H. Scholer, L. V. White.

**661 (7) SULLIVAN, JOHN DONALD**, 604 E. Madison, Ann Arbor, Mich. (Age 23. Born Alma, Mich.) 1923 A. B., Alma (Mich.) Coll. 1924 B. S. in E., Univ. of Mich. Sept. 1924 to Jan. 1925 Engr., City Engr.'s office, Saginaw, Mich. *TT 2.3: SP 2: P 0.3*. Jan. 1925 to date Engr. with Hoad, Decker, Shoecraft & Drury. *TT 0.4: P 0.4*. *TT 2.7: SP 2: P 0.7*. Refers to A. J. Decker, W. C. Hoad, H. W. King, F. N. Menefee, H. E. Riggs, E. C. Shoecraft.

**662 (14) SWOPE, HAROLD MALCOLM**, 921 Brooks Ave., Topeka, Kans. (Age 33. Born Stillwater, Okla.) 1913 B. S., and 1917 C. E., Okla. Agrl. and Mech. Coll. July to Sept. 1912 and May 1913 to Sept. 1914 Chainman, Rodman and Masonry Inspector, Atchison, Topeka & Santa Fe Ry. Co., on maintenance. *TT 1.6: SP 1.6*. Sept. 1914 to June 1917 Transitman in charge of work, maintenance, Eastern and Kansas City Divs., and June 1917 to Jan. 1918 Office Engr. to Div. Engr., Missouri Div., at Marceline, Mo., for same Company. *TT 3.3: P 3.3: RC 0.6: D 3.3*. April 1918 to date with same Company, until March 1921 as Transitman in charge of work, nearly 2 years on maintenance and construction, New Mexico Div., being Engr. in charge (6 months), Glorieta change of line and double track, Fox to Glorieta, N. Mex., and 1 year on maintenance, Eastern and Kansas City Divs.; since March 1921 Office Engr. to Div. Engr., Eastern and Kansas City Divs. *TT 7.2: P 7.2: RC 4.8: D 7.2*. *TT 12.1: SP 1.6: P 10.5: RC 5.4: D 10.5*. Refers to W. E. Baldry, G. J. Bell, C. M. Buck, W. V. Buck, H. W. Crawford, E. H. Dunmire, R. H. Pennartz.

**663 (11) TAYLOR, RALPH TOWER**, 1055 N. Lake Ave., Pasadena, Cal. (Age 29. Born in Hendricks County, Ind.) 1918 B. S., Throop Coll. Tech. May 1919 to Feb. 1922 Draftsman and Designer, Bureau of Power and Light, Dept. of Public Service, Los Angeles, Cal., hydro-electric power plant design on San Francisco Power Plant No. 2, Franklin Canyon Power Plant, San Fernando Power Plant, and on preliminary studies of other proposed hydro-electric plants of the city; directly responsible for design (but work done under general supervision of Chf. Draftsman); work included layout of generator and turbine rooms of hydro-electric power plants, development of a method for quickly determining most economical penstock for a given site, penstock design, structural design of substructure and machinery foundations and draft tubes, spillway design, pipe layouts, etc.; became leader of the squad in hydraulic design which was responsible for this work. *TT 4.7: SP 2: P 2.7: RC 2.7: D 2.7*. Feb. to Nov. 1922 Engr. with W. A. Taylor & Rea P. Taylor, Contrs., Pasadena, Cal., in charge of engineering (for the Contrs.) and layout on Pasadena Tournament of Roses Stadium (a \$300 000 project). *TT 0.8: P 0.8: RC 0.8*. Nov. 1922 to date member of firm, Engr. and Gen. Constr. Supt., W. A. Taylor & Sons, Contrs. and Engrs., Pasadena, in charge of all engineering and general construction (firm designs and constructs mill buildings, warehouses and garages, and builds stadiums, Greek theatres, office buildings, bank and store buildings, churches and high-class residences). *TT 2.5: P 2.5: RC 2.5*. *TT 8: SP 2: P 6: RC 6: D 2.7*. Refers to T. D. Allin, A. R. Arledge, F. J. Converse, S. B. Morris, F. Thomas.

**664 (15) THOMPSON, ROBERT ANDREW, Jr.**, 2003½ Main St., Dallas, Tex. (Age 25. Born Austin, Tex.) 1923 B. S. in C. E., Univ. of Tex. May to Aug. of years 1917 and 1918 Tapeman, Bureau of Valuation, Interstate Commerce Comm. May to Aug. 1920 Rodman, U. S. Bureau of Public Roads. May to Nov. 1921 Rodman-Chairman, Pacific Gas & Elec. Co. June to Sept. 1922 Concrete Inspector on storage dam conduits, and Dec. 1923 to April 1924 Instrumentman on canal location and construction, Wichita County Irrigation Project, Wichita Falls, Tex. *TT 2.8: SP 2.6: P 0.2*. June to Sept. 1923 Instrumentman, Wichita Falls & Southern Ry. *TT 0.2: SP 0.2*. Sept. to Dec. 1923 Junior Driller, testing foundation of Garza dam with core drill, and April 1924 to date Instrumentman and Field Draftsman on location and construction of this dam, City of Dallas, Tex. *TT 1.2: SP 0.7: P 0.5*. *TT 4.3: SP 3.6: P 0.7*. Refers to O. N. Floyd, H. F. McFarland, Jr., J. C. Nagle, T. C. Shuler, T. U. Taylor, P. A. Welty.

**665 (11) TIFFANY, WALTER CHECKLEY**, Seal Beach, Cal. (Age 34. Born Minneapolis, Minn.) July to Dec. 1909 Chainman, Los Angeles Aqueduct. *TT 0.4: P 0.4*. April to Nov. 1910 Chainman, Northern Pacific Ry. *TT 0.6: SP 0.6*. Dec. 1910 to March 1911 Rodman, Minneapolis, St. Paul & Sault Ste. Marie R. R. *TT 0.3: SP 0.3*. May to Aug. 1911 Transit-

man, Ontario Northern Ry. *TT 0.3: SP 0.3.* April 1912 to Sept. 1913 Rodman, Inspector and Instrumentman, Southern Traction Co. *TT 1.6: SP 1.6.* Feb. to Sept. 1914 Draftsman on plant layout, and May to Sept. 1916 Asst. Engr. in charge of distributing station construction, Standard Oil Co. of California. *TT 0.9: SP 0.6: P 0.3: RC 0.3* Nov. 1914 to Aug. 1915 Computer, Pacific Telephone & Telegraph Co., telephone valuation. *TT 0.8: P 0.8.* Nov. 1916 to April 1917 Topographer on hydro-electric reconnaissance, with Stone & Webster. *TT 0.4: SP 0.4.* May 1919 to Jan. 1921 with Stone & Webster on \$16 000 000 Caribou hydro-electric development, until Sept. 1919 as Div. Engr., then Constr. Engr., in responsible charge of field engineering, reports, estimates and construction plant design, and after May 1920 Div. Supt., in responsible charge of all work on Mountain Tunnel and Penstock Div. *TT 1.8: P 1.8: RC 1.8.* June 1921 to June 1922 Chf. of reconnaissance parties and Chf. of Party, highway location, Southern California Edison Co., principally reconnaissance for future hydro-electric developments. *TT 1: P 1: RC 0.5.* Oct. 1922 to April 1923 Testing Engr., Arizona Highway Dept., in charge of highway material testing. *TT 0.5: P 0.5.* Sept. 1923 to April 1924 Engr., Limonelra Co., in charge of construction of irrigation pipe lines, pumping plants and reservoirs. *TT 0.6: P 0.6: RC 0.6.* May 1924 to date Job Engr., Dwight P. Robinson Co., Inc., in charge of field engineering, reports, estimates, inspection and some design, 30 000-kw. steam plant. *TT 1: P 1: RC 1.* *TT 10.2: SP 5: P 5.2: RC 4.2.* Refers to W. H. Becker, W. E. Belcher, V. M. Freeman, E. C. Macy, B. S. Thayer.

666 (10) **TURNER, JOHN MATHES**, 245 Fourth Ave., South, St. Petersburg, Fla. (Age 28. Born Mobile, Ala.) Graduated, Lowell Inst., School for Industrial Foremen, Mass. Inst. Tech. July 1912 to Jan. 1917 Rodman, Instrumentman, Inspector and Draftsman, Eng. Dept., Town of Brookline, Mass. *TT 4.6: SP 4.6.* Feb. 1917 to Dec. 1920 (except Aug. 1918 to Feb. 1919 with U. S. Army) with Stone & Webster, Inc., first as Concrete Designer-Draftsman, Boston, Mass., from Oct. to Dec. 1919 Concrete Designer, Philadelphia, Pa., and after Dec. 1919 Steel Foreman, Boston, in charge of fabrication and placing of reinforcing steel, power plant work (Philadelphia). *TT 3.4: SP 1: P 2.4.* Jan. to Aug. 1921 Designing Draftsman, Steel & Tube Co. of America, Mayville, Wis. *TT 0.7: P 0.7.* Aug. 1921 to Aug. 1922 Plant Supt., Wisconsin Limestone Co., Mayville, in charge of construction and operation of plant producing several sizes and grades of crushed limestone. *TT 1: P 1.* Sept. 1922 to March 1925 with McClellan & Junkersfeld, Inc., until Dec. 1922 as Concrete Designer, New York City, then Structural Engr., St. Louis, Mo., field supervision of structural work, Canokla Station. *TT 2.5: P 2.5: RC 2.2.* March 1925 to date Field Engr., Raymond Concrete Pile Co., St. Petersburg, Fla. *TT 0.2: P 0.2.* *TT 12.5: SP 5.6: P 6.9: RC 2.2.* Refers to R. W. Atwater, H. T. Camplon, E. A. Dockstader, D. H. Plank, J. C. White.

667 (13) **TWADDLE, RALPH HAROLD**, Carson City, Nev. (Age 28. Born Carson City, Nev.) 1922 B. S. in C. E., Univ. of Nev. Feb.-May 1919 Chainman, June-Aug. 1919 Instrumentman, and June to Aug. 1920 Computer in Drafting Dept. of State Highway Dept., for State Highway Engr. of Nevada. *TT 2.6.* June 1922 to April 1925 Bridge Designer, Nevada State Highway Dept., on bridges (steel, timber and concrete, spans 20 to 200 ft.) and minor structures, and May 1925 to date Res. Engr. on bridge construction, all for State Highway Engr. of Nevada. *TT 3: D 2.9.* *TT 5.5: D 2.9.* Refers to F. L. Bixby, H. P. Boardman, G. W. Borden, E. C. Brown, H. F. Holley.

668 (1) **VAN DER NOORDAA, JOHAN TACO**, 3 Gramercy Park, New York City. (Age 25. Born Hoorn, Holland.) 1923 C. E., Technische Hoogeschool to Delft, Holland.) Feb. to June 1923 with Th. & Ed. Wagner, Strasbourg, France, on reinforced concrete construction. *TT 0.3: P 0.3.* June to Dec. 1923 with The Hague (Holland) Asphalt Co., road building and contracting. *TT 0.5: P 0.5.* Jan. 1924 to April 1925 with The Texas Co., P. A. W., Pt. Arthur, Tex., crude oil refinery. *TT 1.3: P 1.3.* May to June 1925 with Republic Fireproofing Co., New York City. *TT 0.1: P 0.1.* *TT 2.2: P 2.2.* Refers to P. Beall, C. E. Beam, C. W. Hunt, A. C. Janni, R. J. Warne.

669 (3) **VAN VLIET, RICHARD**, Care, Robert E. Horton, Voorheesville, N. Y. (Age 21. Born Grand Rapids, Mich.) 1925 B. S. in C. E., Univ. of Mich. *TT 2: SP 2.* Refers to A. H. Blanchard, R. E. Horton, H. W. King, H. R. Leach, H. E. Riggs, C. O. Wisler.

670 (9) **WALL, JAMES JOSEPH**, 733 Belmont Park North, Dayton, Ohio. (Age 33. Born Saginaw, Mich.) 1916 C. E., Cornell Univ. June 1911 to Sept. 1912 Chainman and Rodman, C. N. O. Ry. July and Aug. 1914 on concrete road inspection at Superior, Wis., for Portland Cement Association of Philadelphia, Pa. *TT 3.2: SP 3.2.* Sept. 1916 to March 1917 promotional inspection, reporting on nine concrete roads, New Jersey, through Portland Cement Association, New York office, to Canada Cement Co. of Montreal. *TT 0.5: P 0.5.*

April 1917 to Aug. 1919 at First Officers' Training Camp, Plattsburgh, N. Y., 1st Lieut., Officers' Reserve Corps, 6th U. S. Engrs.; Capt. of Engrs., U. S. Army, commanding A Co., 2d Engrs., 2d Div., A. E. F. *TT 2.4: P 2.4: RC 2.4.* Oct. to Nov. 1919 with Sales Dept., Lakewood Eng. Co., Cleveland, Ohio. *TT 0.1: SP 0.1.* Nov. to Dec. 1919 in charge of grading, 9% miles, Route No. 3, Whitehorse Pike, N. J. *TT 0.1: P 0.1: RC 0.1.* (Feb. to June 1920 Asst. Field Engr., irrigation construction, Barahona Sugar Co., Santo Domingo, Dominican Republic, highway location and construction, Obras Publicas, Dominican Republic. *TT 0.4: P 0.4.* July to Aug. 1920 graduate student, Cornell Univ. *TT 0.2: P 0.2: D 0.2.* Sept. to Nov. 1920 estimating cement quantities, Cement Mfrs. Protective Association. *TT 0.3: P 0.3.* Dec. 1920 to Jan. 1921 Asst. to Walter V. Brown, Mgr., Eng. Societies' Employment Service. Jan. to April 1921 valuation work, estimating industrial buildings and yard structures, Savage Arms Plant, Utica, N. Y. *TT 0.3: P 0.3.* April to Nov. 1921 on concrete road construction at Freehold and Spring Lake, N. J.; Daniel Klockner, Trenton, N. J. *TT 0.6: P 0.6: RC 0.3.* Dec. 1921 to Sept. 1923 Sales Representative Holt Mfg. Co., 24 counties, western New York, tractor grading and snow-removal machinery and equipment. *TT 1.8: SP 1.8.* Oct. 1923 to Feb. 1924 sale of C. L. Best Tractor, same territory; George Wright, Co. Engr., Rochester. *TT 0.3: SP 0.3.* March to Sept. 1924 with Portland Cement Association, Pittsburgh, Pa., concrete products promotion; studied design of concrete mixes, short course, Lewis Inst., Chicago, Ill.; traveled in 23 counties, western Pennsylvania; A. C. Toner, Dist. Engr. *TT 0.6: P 0.6.* Oct. 1924 to date Sales Representative, western Ohio (37 counties), Crescent Portland Cement Co. of Wampum, Pa. *TT 10.8: SP 5.4: P 5.4: RC 2.8: D 0.2.* Refers to C. D. Ashbrook, F. A. Barnes, D. A. Daly, W. L. Havens, L. N. Whitcraft.

671 (12) WALSH, EUGENE RICHARD, 613 Lewis Bldg., Portland, Ore. (Age 39. Born Elyria, Ohio.) Registered Prof. Engr., State of Oregon. 1911 C. E., Ohio Northern Univ. Sept. 1901 to Feb. 1903 Chainman, Aurora, Elgin & Chicago Elec. Ry. Co. *TT 3.4: SP 3.4.* April 1903 to Oct. 1905 Instrumentman, National Tube Co., Lorain, Ohio. *TT 2.6: SP 2.6.* Oct. 1905 to April 1906 Instrumentman, Lima & Toledo Traction Co., Lima, Ohio. *TT 0.5: SP 0.5.* July 1906 to Nov. 1907 Instrumentman—Res. Engr., Buffalo & Lake Erie Traction Co., Buffalo, N. Y. *TT 1.7: SP 0.5: P 1.2: RC 1.2.* July to Nov. 1908 Deputy County Surveyor, Harrison County, Ohio. *TT 0.3: SP 0.3.* June to Sept. 1909 Instrumentman, Lorain County Road Dist. 1, Elyria, Ohio. *TT 0.3: SP 0.3.* April to Sept. 1910 Asst. Bridge Engr., Lorain County, Elyria. *TT 0.4: SP 0.4.* Feb. 1912 to Oct. 1917 Surveyman to Asst. Engr., U. S. Reclamation Service, Flathead Project, St. Ignatius, Mont.; nearly 2½ years in charge of division; supervision over location and construction, irrigation distribution system, canals and structures. *TT 5.7: SP 1: P 4.7: RC 2.7.* Dec. 1917 to March 1918 Supt. in charge of construction of concrete bridge, Pearson Constr. Co., Portland, Ore. *TT 0.2: P 0.2: RC 0.2.* March 1918 to Jan. 1919 Engr., G. M. Standifer Constr. Corporation, Vancouver, Wash., in charge of layout and erection of buildings and machinery, shipyard construction. *TT 0.8: P 0.8: RC 0.8.* Jan. to July 1919 Foreman, G. M. Standifer Shipyard, Vancouver. *TT 0.5: P 0.5: RC 0.5.* July 1919 to date Engr., Brown & Brown, Inc., Portland, Ore., in charge of Eng. Dept., which handles all engineering problems in connection with reconnaissance, location, design of structures and construction of railroads for logging operators on Pacific Coast; includes mapping of large timbered areas and reports on development of such areas; also consulting service on logging and logging railroad problems. *TT 5.7: P 5.7: RC 5.7: D 5.7.* *TT 22.2: SP 9.1: P 13.1: RC 11.1: D 5.7.* Refers to F. T. Crowe, C. M. Howard, R. W. Lincoln, C. B. Long, C. J. Moody, M. E. Reed, R. H. Stock.

672 (6) WANG, TU, 530 Melrose Ave., Ambridge, Pa. (Age 25. Born Kuntung, Hupeh, China.) 1924 B. S., Univ. of Ill. June 1924 to date Draftsman, American Bridge Co., Ambridge, Pa. *TT 2.9: SP 2.9.* Refers to H. Cross, F. L. Dudley, M. L. Enger, R. G. Manning, T. D. Mylrea, C. C. Williams.

673 (2) WEAVER, FREDERIC NIXON, 16 High St., West Somerville, Mass. (Age 35. Born Boston Mass.) 1913 B. S., Tufts Coll. Sept. 1913 to Sept. 1915 Checker, structural details, Designer, New England Structural Co., East Everett, Mass. *TT 4: D 2.* Sept. 1915 to June 1917 Teacher of Mathematics and English, industrial education, Passaic (N. J.) High School. Aug. 1917 to July 1919 with 26th Div., U. S. Army, in France. *TT 2.* Sept. 1919 to date at Tufts Coll., Medford, Mass., 3 years as Instructor in Mathematics and Civ. Eng., and 3 years Asst. Prof. of Civ. Eng., in charge of sophomore course in Mechanics. Various summers with G. W. & F. Smith Iron Co., New England Structural Co., and Stone & Webster, Boston, Mass. During college year on work for McLaughlin & Burr, Boston, also

had some private consulting work, arch bridges, etc. (1 year). *TT 6: RC 2: D 5. TT 12: RC 2: D 7.* Refers to H. A. Gray, E. D. Mortenson, E. H. Rockwell, F. B. Sanborn, E. H. Wright.

**674 (14) WEAVER, LOUIS WILLIAM, Jr.,** 1704 Pepper Ave., Lincoln, Nebr. (Age 35. Born Columbus, Nebr.) 1917 B. Sc. in C. E., Univ. of Nebr. June to Sept. 1912 Axeman, June to Sept. 1913 Asst. Engr., Inspector of earth dam and Draftsman, and June to Sept. 1916, Draftsman, Chicago, Burlington & Quincy R. R. June to Sept. 1917 Instrumentman with John L. Hershey, Beatrice, Nebr., on pavement construction. *TT 2.2: SP 2.2.* Sept. 1917 to March 1919 1st Lieut., Inf., U. S. Army. April 1919 to May 1921 Instrumentman with County Engr., Lancaster County, Nebr., on surveys, construction of Federal Aid roads, pavements and bridges, drafting, paving assessments. *TT 2: SP 2.* May to Sept. 1921 Project Engr., Nebraska Dept. of Public Works, Lincoln, Nebr., in charge of construction of 20 miles earth road, including bridges and culverts, near Beatrice. *TT 0.3: P 0.3: RC 0.3.* Sept. to Dec. 1921 Asst. to City Engr. of Nebraska City, Nebr., Instrumentman and Office Engr. during construction of brick pavement. *TT 0.2: SP 0.2.* March 1922 to March 1923 Res. Engr., Rohrbough Eng. Co., Omaha, Nebr., in charge of construction of brick and sheet asphalt pavement and storm sewers at Oakland, Nebr., property development and Draftsman at Omaha. *TT 1: SP 0.2: P 0.3: RC 0.8.* April to Sept. 1923 Asst. to City Engr., North Platte, Nebr., Instrumentman and Office Engr. during construction of asphalt pavement. *TT 0.4: SP 0.4.* Sept. to Nov. 1923 Res. Engr. with W. D. J. Steckelberg, Madison, Nebr., in charge of construction of vibrolithic and reinforced concrete pavement and 1 mlie of graveled road. *TT 0.3: P 0.3: RC 0.3.* Nov. 1923 to date Deputy County Engr., Lancaster County, Nebr., design and supervision of construction of steel and reinforced concrete bridges, supervision of office engineer, survey parties, construction of earth and gravel roads, pavements and maintenance of roads; drawing and writing specifications and contracts. *TT 1.4: P 1.4: RC 1.2: D 0.2. TT 8: SP 5.2: P 2.8: RC 2.6: D 0.2.* Refers to A. H. Edgren, D. L. Erickson, R. M. Green, R. O. Green, J. L. Hershey, C. J. McNamara, C. A. Shannon.

**675 (5) WEBB, WILLIAM THAYER,** 4112 Fessenden St., N. W., Washington, D. C. (Age 27. Born Northville, S. Dak.) 1922 B. S. in C. E., George Washington Univ. Aug. 1922 to April 1925 Engr., Rosslyn Steel & Cement Co., Washington, D. C., designing, estimating and detailing reinforced concrete construction. *TT 4.7: SP 3.7: P 1.* Refers to G. B. DuBois, J. R. Lapham, A. B. McDaniel, H. Miller, M. S. Rich, G. B. Strickler.

**676 (7) WEEBER, EARL RICHARD,** 421 Kelsey Office Bldg., Grand Rapids, Mich. (Age 27. Born Grand Rapids, Mich.) 1920 B. S. in Civ. Eng., Univ. of Mich. Oct. 1916 to June 1920 (spare time and vacations, while student, total 6 months) Instrumentman and Draftsman for City Engr., Ann Arbor, Mich.; Instrumentman on U. S. Govt. Powder Plant at Nitro, W. Va.; Draftsman, Merchants Shipbuilding Corporation, Harriman, Pa. *TT 2: SP 2.* July 1920-Oct. 1922 Instrumentman and Draftsman, Fargo Eng. Co., Jackson, Mich., field work on surveys for water-power plants, turbine tests and hydrographic surveys; office work, tracing, detailing and structural design. *TT 2.3: SP 1.5: P 0.8.* Nov. 1922-Feb. 1925 Designer for Spooner & Merrill, Cons. Engrs., and Burd & Giffels, Civ. and Hydr. Engrs., Grand Rapids, Mich., in field on surveys and in charge of construction, and in office on structural design, and in charge of such design. *TT 2.2: P 2.2: RC 1.3.* March 1925 to date Prin. Asst. Engr. for Burd, Giffels & Hamilton, Municipal and Power Plant Engrs., in charge of structural design. *TT 0.2: P 0.2: RC 0.2. TT 6.7: SP 3.5: P 3.2: RC 2.* Refers to J. S. Bowman, E. M. Burd, R. G. England, W. G. Fargo, W. C. Giffels, H. S. Hunt, C. T. Johnston, E. Maerker, R. H. Merrill, M. Osgood, C. W. Spooner.

**677 (7) WELDEN, NEIL,** 616 Hickory St., Iowa Falls, Iowa. (Age 29. Born Iowa Falls, Iowa.) 1925 B. S. in C. E., Iowa State Coll. Jan. to April 1917 Instrumentman and Engr., Mainland Cedar Co., Vancouver, B. C., location and in charge on construction of logging railroad. *TT 2.3: SP 2.1: P 0.2: RC 0.2.* May 1917 to Sept. 1919 Corporal, 2d Engrs., U. S. Army, Specialist in reconnaissance and mapping. *TT 2.3: SP 2.3.* Nov. 1919 to Dec. 1921 Instrumentman and in charge of party, Porteous & Co., Seattle, Wash., timber cruising, mapping and logging railroad location. *TT 2: SP 1.8: P 0.2: RC 0.2.* Jan. to June 1922 and Jan. 1923 to June 1925 Student in Civ. Eng., Iowa State Coll. June to July 1922 Contr., grading athletic field, Ellsworth College, Iowa Falls, Iowa. Aug. to Dec. 1922, July to Sept. 1923 and June to Sept. 1924 Asst., Welden Constr. Co., Iowa Falls, on construction of concrete arch bridge, Iowa Falls, earth dam near Eldora, Iowa, and concrete culverts and small bridge. *TT 0.4: SP 0.1: P 0.3: RC 0.4. TT 7: SP 6.2: P 0.8: RC 0.8.* Refers to T. R. Agg, F. Kerekes, A. Marston, C. S. Nichols, E. Welden.



## FOR TRANSFER

## FROM THE GRADE OF ASSOCIATE MEMBER

**678 (14) AUSTILL, HURIEOSCO**, Assoc. M., 1201 Fullerton Bldg., St. Louis, Mo. (Elected March 14, 1916.) (Age 41. Born Spring Hill, Ala.) 1906 C. E., Univ. of Ala. Oct. 1901 to Jan. 1902 Rodman, Louisville & Nashville R. R. Jan. to July 1902 Rodman, Topographer and Levelman, proposed Mobile & West Alabama R. R. Aug. 1902 Rodman, Mobile & Ohio R. R. June to Aug. 1905 Rodman, Republic Iron & Steel Co. TT 2.8: SP 2.8. May to Aug. 1906 Res. Engr., Mississippi Eastern R. R., location and construction. TT 0.2: P 0.2. Aug. 1906 to Nov. 1907 Asst. Res. Engr., L. & N. R. R., on construction. TT 1.2: P 1.2. Aug. 1908 to April 1910 Draftsman, Inspector and Chf. of Party, U. S. Engr. Corps, on sea-wall construction and canal location. TT 1.7: SP 0.5: P 1.2: RC 0.7. May 1910 to April 1911 Asst. Engr., maintenance, and April 1911 to Sept. 1917 and Jan. 1919 to date Bridge Engr., M. & O. R. R. TT 13.8: P 13.8: RC 12.9. Sept. 1917 to Dec. 1918 Capt. and Major, Engrs., U. S. Army; at present Lt.-Col., Engr. Reserve. TT 1.2: P 1.2: RC 1.2. TT 20.9: SP 3.3: P 17.6: RC 14.8: D 1.3. Refers to C. D. Batson, W. Fennell, E. A. Frink, W. H. Hoyt, J. C. Nelson, J. R. Peavy, A. O. Ridgway.

**679 (7) AYRES, QUINCY CLAUDE**, Assoc. M., Iowa State Coll., Ames, Iowa. (Elected Junior Feb. 4, 1914; Assoc. M. Jan. 19, 1920.) (Age 34. Born Columbus, Miss.) 1912 B. S. and B. E., and 1920 C. E., Univ. of Miss. July to Dec. 1912 Rodman, Computer and Draftsman with C. H. West, Cons. Engr., collecting and preparing data for report on defective sewer system of Greenville, Miss. TT 2.5: SP 2.5. Jan. 1913 to June 1914 Transmittan and Office Engr. on design of ditches, compilation of data and development of improvement plans for Otter Bayou and Washington Bayou Drainage Dist., Mississippi. TT 1.5: P 1.5: RC 1: D 0.5. July to Sept. 1914 Transmittan on location of drainage canals in Arkansas. TT 0.2: P 0.2: RC 0.2. Oct. to Dec. 1914 Draftsman and Computer, Board of Mississippi Levee Comms., Greenville, preparing charts showing changes in shore lines of Mississippi River since 1881. TT 0.2: P 0.2: RC 0.2. Jan. to July 1915 Asst. Engr. on construction of macadam and gravel roads in Lowndes County, Miss.; design of small bridges and culverts. TT 0.6: P 0.6: RC 0.6: D 0.8. Aug. to Dec. 1915 Leveler and Topographer, U. S. War Dept., on surveys, Muscle Shoals, also compiling data and estimating quantities for Wilson Dam. TT 0.4: P 0.4: RC 0.4. Jan. 1916 to Aug. 1919 (except May 1917 to June 1919 on furlough as 2d Lieut. and 1st Lieut., Engrs., U. S. Army, 1½ years in France and Germany with combat troops; supervised construction of roads, bridges, etc.) Jun. Drainage Engr. and (after July 1919) Drainage Engr., U. S. Bureau of Public Roads, Washington, D. C., made numerous surveys, reports and designed improvements for tracts needing drainage; Prin. Asst. investigating and designing plans for reclamation and flood protection along Saginaw River, Mich.; conducted research on effect of tile drains in removing water behind Mississippi River Levees in Illinois, etc. TT 3.7: P 3.7: RC 3.7: D 1.2. Sept. 1919 to May 1920 Asst. Prof., C. E. Dept., Univ. of Mississippi, in charge of instruction in surveying, drawing, railroad engineering, hydraulics, water power engineering and testing laboratory. TT 0.7: P 0.7: RC 0.7: D 0.5. June to Sept. 1920 Res. Engr., sanitary sewer construction, Town of Senatobia, Miss. TT 0.2: P 0.2: RC 0.2. Oct. 1920 to May 1921 Asst. Prof., and Sept. 1921 to date Associate Prof., Agricultural Eng. Dept., Iowa State Coll., in charge of instruction in graphic methods, drainage engineering and irrigation engineering; since Sept. 1921 organized and taught special courses in drainage administration, dredges and dredging machinery, and drainage pumps and pumping plants. June to Aug. 1921 in private practice in Mississippi, drainage work; other summers also in private practice, instruction and research. TT 4.7: P 4.7: RC 4.7: D 3.6. TT 14.9: SP 2.5: P 12.4: RC 11.9: D 6.1. Refers to W. E. Ayres, G. R. Boyd, J. H. Dorroh, W. L. Foster, A. H. Fuller, S. H. McCrory, A. Marston, C. S. Nichols, R. Somerville, W. L. Thompson, C. H. West.

**680 (15) BIRD, BYRON**, Assoc. M., Faculty Exchange Box 147, College Station, Tex. (Elected Nov. 26, 1918.) (Age 36. Born Ft. Dodge, Iowa.) 1912 B. S. in C. E., Iowa State Coll. 1915 C. E., Univ. of Wis. June 1912 to Sept. 1914 Draftsman with Alvord & Burdick, Cons. Engrs., Chicago, Ill., assisted on plans and reports on water-works, sewerage, sewage-disposal plants, water powers and flood protection projects. TT 4.2: SP 4.2. Sept. 1914 to July 1915 student (one-half of time) and Research Asst., Hydr. Eng. Dept. (one-half of time), Univ. of Wisconsin. TT 0.8: P 0.8. Aug. 1915 to June 1917 Computer, Eng. Dept., Miami Conservancy Dist., Dayton, Ohio, assisted on design, estimates and plans for flood protection project for Miami River Valley. TT 2: SP 1: P 1: D 0.5. June 1917 to Jan. 1919 with U. S. Army, 1 year as Asst. Supt., Constr. Div., Signal Corps, on construction of aviation camps at Chanute Field, Rantoul, Ill., Headquarters Office, Washington, D. C.,

Ellington Field, Houston, Tex., and Eberts Field, Lonoke, Ark., consisting of roads with surfaces of various types, wood, steel, and reinforced concrete buildings, water-works distribution systems, sewage-disposal plants, sewerage, grading, clearing and grubbing; Feb. 1918 commissioned 2d Lieut.; after June 1918 Commanding Officer, Air Service Squadron and Squadron Det., Vancouver Barracks, Wash.; April 1923 appointed Capt., Engr. Res. Corps. *TT 1.5: SP 0.5: P 1: RC 1.* April to Sept. 1919 Instructor in Civ. Eng., Sept. 1919 to Sept. 1922 Associate Prof., Hydr. and San. Eng., and Sept. 1922 to date Prof. of Structural Eng., Texas Agricultural and Mechanical Coll. *TT 6: SP 0.5: P 5.5: RC 5.5: D 1 TT 14.5: SP 6.2: P 18.3: RC 6.5: D 1.5.* Refers to L. R. Howson, J. C. Nagle, C. H. Paul, J. J. Richey, W. M. Smith.

**681 (5) BROOKE, GEORGE DOSWELL**, Assoc. M., Room 1304, First National Bank Bldg., Richmond, Va. (Elected Nov. 7, 1906.) (Age 46. Born Sutherland, Va.) 1900 B. S., and later C. E., Va. Mil. Inst. July 1902 to June 1918 with Baltimore & Ohio R. R. as follows: July to Aug. 1902 Rodman; Aug. to Dec. 1902 Leveler; Dec. 1902 to May 1904 Transitman; May to Nov. 1904 Field Engr.; Nov. 1904 to April 1905 Asst. Engr., at Baltimore, Md.; April 1905 to Aug. 1907 Asst. Engr., at Cumberland, Md.; Aug. 1907 to July 1908 Asst. Engr., at Morgantown, W. Va.; July 1908 to July 1909 Asst. Div. Engr. at Pittsburgh, Pa.; July 1909 to March 1911 Div. Engr. at Baltimore; March 1911 to Feb. 1912 Asst. Engr., Operating Dept., Baltimore; Feb. to Sept. 1912 Asst. Supt., at Cumberland; Sept. 1912 to April 1914 Supt. at Winchester, Va.; April 1914 to Sept. 1916 Supt. at Chillicothe, Ohio; Sept. 1916 to May 1918 Supt. at Cumberland; May to June 1918 Special Representative, Trans. Dept., Baltimore. *TT 17.8: RC 13.5: D 8.7.* June 1918 to March 1919 Supervisor, Operating Div., U. S. R. R. Administration, Allegheny Region, Philadelphia, Pa. *TT 0.8: RC 0.8.* March 1919 to Aug. 1924 Supt. of Transportation, B. & O. R. R., Cincinnati, Ohio. *TT 5.4: RC 5.4.* Aug. 1924 to date Asst. to Vice-Pres., Operation, Chesapeake & Ohio Ry. Co., Richmond, Va. *TT 0.7: RC 0.7: D 0.7. TT 24.7: RC 20.4: D 9.4.* Refers to R. N. Begien, S. A. Jordan, E. G. Lane, H. A. Lane, H. G. Shirley, F. L. Stuart, H. R. Talcott, A. W. Thompson.

**682 (14) BURTON, WAYNE JOSEPH**, Assoc. M., 1095 Ry. Exchange, St. Louis, Mo. (Elected Junior Sept. 4, 1906; Assoc. M., Jan. 7, 1913.) (Age 42. Born near St. Joseph, Mich.) 1903 B. S. in C. E., Purdue Univ. Two summers with Western Elec. Co. and Link Belt Machinery Co., part of time in factory, and part of time drafting. June 1903 to Jan. 1905 Yard Clerk, Baltimore & Ohio R. R. Co., building freight trains. *TT 3.5: SP 3.5.* Feb. 1905 to date with Missouri Pacific Ry. Co. as follows: Feb. 1905 to March 1906 Asst. Engr. on various work, mostly design of yards and terminals; April to Oct. 1906 Asst. Roadmaster, division maintenance; Nov. 1906 to April 1909 and April 1911 to Aug. 1912 Div. Engr. in charge of maintenance of way and structures; May 1909 to March 1911 Asst. Engr. and Design Engr., design of various railroad facilities; Sept. 1912 to April 1913 Asst. Dist. Engr.; Asst. in charge of maintenance on district (6 divisions, 2500 miles); May 1913 to Nov. 1919 Asst. Engr. on various investigations and reports, including some design; also First Asst. in valuation work; since Dec. 1919 Asst. Valuation Engr., principally work connected with valuation but has included special assignments and investigations connected with corporation affairs. *TT 20: SP 1.7: P 18.3: RC 18.3: D 4. TT 23.5: SP 5.2: P 18.3: RC 18.3: D 4.* Refers to B. L. Brown, M. L. Byers, F. W. Green, E. A. Hadley, A. A. Miller, F. C. Squire, A. N. Talbot, R. C. White, L. Yager.

**683 (14) CARROTHERS, HENRY HARRISON**, Assoc. M., 310 Walsix Bldg., Kansas City, Mo. (Elected June 1, 1920.) (Age 36. Born Peru, Ind.) 1917 B. S. C. E., and 1921 C. E., Purdue Univ. Feb. 1913 to Feb. 1914, and April to Sept. 1915 Foreman on construction, bridge work, Chicago, Milwaukee & St. Paul R. R. April to Sept. 1916 Res. Engr., C. M. & St. P. R. R., grade separation, City of Milwaukee. *TT 3: SP 2: P 1: RC 1.* 1917 Res. Engr., Winnipeg Aqueduct Constr. Co. *TT 0.8: P 0.8.* 1918 2d Lieut., 42d Engrs., A. E. F. *TT 1.1: P 1.1: RC 1.1.* Jan. 1919 to March 1920 Res. Engr. with Lund and Hill, Little Rock, Ark. *TT 1.2: P 1.2.* March 1920 to Jan. 1921 Asst. Engr. with Burns & McDonnell, Kansas City, Mo. *TT 0.7: P 0.7: RC 0.7.* Jan. 1921 to date Gen. Contr. on sewers, water-works and power plants. *TT 4.5: P 4.5: RC 4.5. TT 11.4: SP 2: P 9.4: RC 7.3.* Refers to A. C. Everham, W. K. Hatt, A. P. Learned, C. R. Mandigo, L. B. Reynolds.

**684 (11) COTTRELL, FREDERICK WILLIAM**, Assoc. M., Delta, Utah. (Elected May 31, 1916.) (Age 37. Born Farmington, Utah.) Student, Latter Day Saints Univ. (1903-1905) and Univ. of Utah (1906). Dec. 1906 to March 1907 Recorder, and May to Sept. 1907 Recorder and Computer in field, U. S. Coast and Geodetic Survey. *TT 0.6: SP 0.6.* April to Dec. 1908 Asst. Dist. Engr., Dept. of Public Works, Alberta Province, Canada; Chf. of

Party on highway location. *TT 0.7: SP 0.7.* April 1909 to May 1910 Field Engr. for Richard R. Lyman, Cons. Engr. on power plant construction and irrigation construction (reconstruction of dam and construction of canals and irrigation structures). *TT 1.1: P 1.1: RC 1.1: D 0.5.* June to Sept. 1910 Chf. of Party on location, and Sept. 1910 to March 1911 and Nov. 1911 to May 1912 Computer, physical valuation (cost of grading, track and track laying), Oregon Short Line R. R. Co. *TT 1.3: P 1.3: RC 0.2.* March to Nov. 1911 Res. Engr., Delta Land & Water Co., on construction of canals and irrigation structures, and May 1912 to June 1915 Chf. Engr. of this Company, in charge of design and construction of canals and irrigation structures for major part of 40 000 acres, location and construction of grade for 13 miles of branch railroad, design and calibration of measuring gate for backwater conditions and installation on 40 000 acres. *TT 3.7: P 3.7: RC 3: D 3.7.* June 1915 to Nov. 1918 Chf. Engr., Deseret Irrigation Co., Melville Irrigation Co., also Engr. on special water supply investigation, Sevier River Land & Water Co., irrigation construction, operation and water litigation. *TT 3.4: P 3.4: RC 3.4: D 2.* March 1919 to Jan. 1920 Engr. for J. P. Marshall on design and construction of irrigation system for 10 000 acres. *TT 0.7: P 0.7: RC 0.7: D 0.7.* Jan. 1920 to date Engr. Mgr., Delta Canal Co., Melville Irrigation Co., Deseret Irrigation Co., and (part of time) for Abraham Irrigation Co., operation of systems covering 83 000 acres including design and construction of irrigation structures. *TT 5.2: P 5.2: RC 5.2: D 2.* *TT 16.8: SP 1.2: P 15.6: RC 13.8: D 8.9.* Refers to R. K. Brown, R. A. Hart, E. A. Jacob, H. S. Kleinschmidt, R. R. Lyman, F. H. Pickett, E. A. Porter.

**685 (12) CUNNINGHAM, JOHN WILBUR**, Assoc. M., 414 Spalding Bldg., Portland, Ore. (Elected Junior Aug. 31, 1909; Assoc. M., Nov. 4, 1914.) (Age 38. Born Watertown, S. Dak.) 1908 B. S. in Civ. Eng., Univ. of Ws. 1906 to 1908 (part of time) and 1909 Instrumentman, Draftsman and Asst. Engr. with Leonard S. Smith, Cons. Engr., Madison, Wis. *TT 3: SP 2.5: P 0.5: RC 0.3.* June 1909 to March 1912 Draftsman and Asst. Bridge Engr., North Coast R. R. Co., Spokane, Wash., on heavy bridge design. *TT 2.8: P 2.8: RC 0.1: D 2.8.* March 1912 to March 1913 Draftsman and Asst. Engr., Kittites Reclamation Dist., Ellensburg, Wash., on design of 70 000-acre irrigation project. *TT 1: P 1: RC 0.5: D 1.* April 1913 to Dec. 1914 Draftsman and Supt. of Constr., Northwest Steel Co., Portland, Ore., miscellaneous steel detailing and designing, design and construction of structural shop. *TT 1.7: P 1.7: RC 0.7: D 1.* Dec. 1914 to date member of firm, Baar & Cunningham, Cons. Engrs., Portland, drainage, irrigation, water supply and sewerage. *TT 10.3: P 10.3: RC 10.3: D 10.3.* *TT 18.8: SP 2.5: P 16.3: RC 11.9: D 15.1.* Refers to C. E. Beam, D. C. Henny, O. Laurgaard, D. W. Mead, S. Murray, S. H. Sims, L. S. Smith.

**686 (13) DAVIS, RAYMOND EARL**, Assoc. M., Civ. Eng. Bldg., Univ. of California, Berkeley, Cal. (Elected May 12, 1919.) (Age 40. Born Gorham, Me.) 1914 B. S. in Civ. Eng., and 1914 C. E., Univ. of Me. 1916 M. S. in Theo. and App. Mech., Univ. of Ill. June to Dec. 1905 Draftsman and Inspector on paper mill design and construction, Oxford Paper Co., Rumford, Me. *TT 2.5: SP 2.5.* Jan. 1906 to Feb. 1907 Instrumentman, Maine Central R. R. *TT 1.1: SP 1.1.* May 1907 to Jan. 1908 Chf. Topographer on preliminary surveys, and Feb. 1908 to Jan. 1909 Jun. Engr. on construction, Canadian Govt. Rys. *TT 1.7: P 1.7.* Feb. to Sept. 1909 Civ. Engr. on paper mill and hydro-electric power plant design and construction, and June to Aug. 1911 Civ. Engr. on water-wheel efficiency tests and factory water supply, Canada Paper Co., Quebec. *TT 0.9: P 0.9: RC 0.3: D 0.8.* Sept. 1911 to Dec. 1917 Instructor in Civ. Eng., Univ. of Illinois, also research in hydraulics and reinforced concrete, Univ. of Ill. Eng. Experiment Station. June to Sept. 1912 Designer and Detailer of railroad structures, Chicago, Milwaukee & St. Paul Ry., Chicago. June to Sept. of years 1915 and 1917 Topographic Engr., mineral development, Mine La Motte Land & Smelter Co. (Mo.) June to Sept. 1916 on reinforced concrete and timber design, in charge design and construction mill buildings, dam, flume design, Canada Paper Co. *TT 6.3: P 6.3: RC 1.4: D 1.8.* Jan. to Sept. 1918 1st Lieut., Engrs., Asst. to Dept. Engr., Western Dept., U. S. Army, in charge of collection and compilation of military maps and statistics of areas in five western states. *TT 1.8: P 1.8: RC 1.5.* Sept. 1919 to June 1920 Associate Prof. of Civ. Eng., Univ. of Nebraska, in charge of irrigation hydraulics and railway engineering. *TT 0.7: P 0.7: RC 0.7: D 0.1.* July 1920 to date Associate Prof. of Civ. Eng., Univ. of California, structures and testing materials, also in private practice of structural and testing engineering, acting for various corporations and municipalities. *TT 5: P 5: RC 5: D 2.* *TT 20: SP 3.6: P 16.4: RC 8.9: D 4.7.* Refers to I. O. Baker, H. S. Boardman, C. Derleth, Jr., B. A. Etcheverry, S. T. Harding, C. G. Hyde, F. H. Newell, A. N. Talbot.

687 (5) EDGERTON, GLEN EDGAR, Assoc. M., 1226 Interior Bldg., Washington, D. C. (Elected Junior Nov. 8, 1909; Assoc. M. June 3, 1915.) (Age 38. Born Parkerville, Kans.) 1904 B. S. in Mech. Eng., and 1916 C. E., Kans. State Agri. Coll. 1908 U. S. Mil. Acad.; became 2d Lieut., Feb. 1908, 1st Lieut. Feb. 1911, Capt. Oct. 1914, Major May 1917 and Lt.-Col. (temp.) Aug. 1917, Corps of Engrs., U. S. Army, and July 1918 Col., C. E., N. A., reverting to Major, C. of E., March 1920. May 1908 to Sept. 1909 Rodman and Instrumentman, Panama R. R. TT 3.4: SP 3.4. Oct. 1909 to Dec. 1910 Student Officer, Engr. School, U. S. Army, and Lieut., 1st Battalion of Engrs., graduate engineering instruction, miscellaneous engineering construction and training engineer troops. TT 1.2: P 1.2. Jan. 1911 to Sept. 1915 Chf. Engr., Alaska Road Comm., in charge of design and construction of roads and bridges, designed and constructed flood protection works, Valdez, Alaska, and designed small hydraulic installation for placer mining. TT 4.7: P 4.7: RC 4.7: D 1. Oct. 1915 to March 1916 commanding company, 2d Battalion of Engrs., U. S. Army, miscellaneous engineering work, military surveys and training engineer troops. TT 0.5: P 0.5: RC 0.5. April to Dec. 1916 Asst. Dist. Engr. and Dist. Engr., Military Dist. of El Paso, Asst. Supt. of Military Ry., and in charge of Engineer Depot; design and construction of roads, water-supply installations, etc., for camps; plans for reconstruction and operation of railroads south from El Paso; specification and procurement of road construction and water supply equipment for Mexican Punitive Expedition. TT 0.7: P 0.7: RC 0.7: D 0.3. Jan. 1917 to Jan. 1919 with various engineering regiments, miscellaneous engineering construction pertaining to cantonments and posts and training engineer troops, design of flood-protection works for Ft. Brown, Tex. TT 2.1: P 2.1: RC 2.1: D 0.2. Feb. to Oct. 1919 Asst. Dist. Engr. (3 months) and Dist. Engr., Jacksonville, Fla., River and Harbor Dist., improvement of rivers and harbors in Florida, including extensive dredging, design of extension of jetties and miscellaneous design and construction of fortification works. TT 0.7: P 0.7: RC 0.7: D 0.3. Nov. 1919 to Feb. 1920 commanding 2d Engrs., U. S. Army, miscellaneous engineering construction, repair of roads, etc., in maintenance and improvement of cantonments. TT 0.3: P 0.3: RC 0.3. March 1920 to Oct. 1921 in charge Supply Sec., Office Chf. of Engrs., U. S. Army; design (including experimental work), specifications and procurement and issue of equipment for engineer troops; supervision of design and fabrication of searchlight towers for sea-coast fortifications, sale of war surplus stocks of engineering construction equipment. TT 1.7: P 1.7: RC 1.7: D 0.4. Sept. 1923 to June 1924 Student Officer, Command and General Staff School, graduate work in military subjects. TT 0.1: P 0.1: RC 0.1. July to Aug. 1924 Camp Engr., Camp Meade, Md., maintenance of cantonment, designed swimming pools, drew plans for new cantonment layout, including water supply; instruction of Engr. Reserve Officers in military engineering. TT 0.1: P 0.1: RC 0.1: D 0.1. Sept. 1924 to date Asst. Chf. Engr., Federal Power Comm., engineering investigation of applications for hydro-electrical power developments under Federal Water Power Act. TT 0.6: P 0.6: RC 0.6. TT 16.1: SP 3.4: P 12.7: RC 11.5: D 2.3. Refers to W. J. Barden, L. H. Beach, W. M. Black, G. R. Goethals, C. L. Hall, J. G. Steese, H. Taylor, M. C. Tyler.

688 (1) ELY, JOHN ANDREWS, Assoc. M., 281 Fourth Ave., New York City. (Elected Junior April 30, 1901; Assoc. M. Jan. 8, 1908.) (Age 47. Born New York City.) 1899 C. E., Princeton Univ. June 1899 to June 1900 Asst. Checker, Lorain Steel Co., Johnstown, Pa. TT 3: SP 2: P 1. July 1900 to Jan. 1902 Asst. on design of new cement plant for Edison Portland Cement Co. at Stewartsville, N. J. TT 1.5: P 1.5. June 1902 to Aug. 1904 Structural Iron Detailer and Checker with Purdy & Henderson, New York City. TT 2.2: P 2.2: RC 1.2. Aug. 1904 to Feb. 1905 Estimator and Designer of steel mill buildings and bridges with Milliken Bros., New York City. TT 0.5: P 0.5: RC 0.5: D 0.5. Feb. to May 1905 special work on design of small automobile factory. TT 0.3: P 0.3: D 0.3. May 1905 to Sept. 1906 Squad Boss in structural steel drawing room with Post & McCord, New York City, responsible charge of drawings for large office buildings and churches. TT 1.3: P 1.3: RC 1.3. Sept. 1906 to July 1907 Squad Foreman and Designer, National Bridge Works, Long Island City. TT 0.8: P 0.8: RC 0.8: D 0.5. Aug. 1907 to March 1910 in private practice as Cons. Engr., New York City, largely carrying through shop drawings and making estimates and designs; large part of time on several contracts for Irving Iron Works, Long Island City, involving practically supervision of their drawing room. TT 2.7: P 2.7: RC 2.7: D 1.7. April 1910 to Aug. 1911 Structural Designer on new school buildings, Board of Education, New York City. TT 1.3: P 1.3: RC 1.3: D 1.3. March 1912 to Dec. 1913 Instructor in Mathematics, Jan. 1914 to March 1921 Prof. of Surveying, Prof. of Eng. and Head of the Dept., and April 1921 to date Dean of Coll. of Arts and Science, St. John's Univ., Shanghai, China; has built up Dept. of Eng. into one of separate schools of the



University. TT 13.1: SP 1.7: P 11.4: RC 11.4. TT 26.7: SP 3.7: P 23: RC 19.2: D 4.3. Refers to E. Y. Allen, L. A. Robb, E. C. Stocker, O. J. Todd, W. B. Travell, P. P. Whitham, J. B. Wright.

689 (7) FELLOWS, PERRY AUGUSTUS, Assoc. M., 1364 Newport Ave., Detroit, Mich. (Elected June 11, 1917.) (Age 42. Born Homer, Mich.) 1906 B. S. in Civ. Eng., and 1916 M. S. in Civ. Eng., Univ. of Mich. 1903 to 1904 Rodman, Rock Island System. TT 3: SP 3. 1906 Asst. on Corps, Pennsylvania Lines West of Pittsburgh. TT 0.5: SP 0.5. 1906 to 1911 Asst. Engr., Central of Georgia Ry. TT 5: P 5: RC 5: D 2.5. 1911 to 1912 Asst. Engr., Atlantic Coast Line R. R. TT 1: P 1: RC 1: D 0.7. 1912 to 1915 Gen. Supt., Winnabore Granite Corporation. TT 3: P 3: RC 3: D 1.5. 1916 Engr., City of Detroit (nearly 4 months) and Asst. Engr., Michigan Central R. R. (over 2 months). TT 0.5: P 0.5: RC 0.5: D 0.2. 1916 to 1918 Instructor, Univ. of Michigan. TT 2: P 2: RC 2: D 2. 1918 to 1925 Cons. Engr. and Mech. Supt., Frederick Stearns & Co., Detroit, Mich. TT 7.5: P 7.5: RC 7.5: D 3.7. June 1925 to date City Engr. of Detroit. TT 22.5: SP 3.5: P 19: RC 19: D 10.6. Refers to L. E. Ayres, G. H. Fenkell, L. M. Gram, W. C. Hoad, C. W. Hubbell, J. W. Reid, H. E. Riggs, G. S. Williams.

690 (7) FRUEND, HENRY LOUIS, Assoc. M., Fargo Eng. Co., 147 S. Mechanic St., Jackson, Mich. (Elected April 19, 1920.) (Age 39. Born Toledo, Ohio.) 1909 B. S. in C. E., Univ. of Mich. June 1909 to Oct. 1911 Recorder (8 months), then Jun. Engr., U. S. Lake Survey, Detroit, Mich. TT 4.3: SP 2.7: P 1.6: RC 1. Oct. 1911 to May 1912 Draftsman, Kentucky & Indiana Terminal R. R. Co., Louisville, Ky., underpasses and bridge approach for track elevation. TT 0.6: SP 0.6. May 1912 to June 1915 Supt. of Constr. and Engr., Jefferson County Constr. Co., Louisville (until Sept. 1913), then Vice-Pres. and Supt. of Constr., Marshall Bros. Constr. Co., Portland, Me., public works construction, estimating, purchasing and supervising. TT 3.1: P 3.1: RC 3.1. June 1915 to Aug. 1916 Inspector, Town of Brookline, street pavements and reinforced concrete sewers. TT 1.2: P 1.2: RC 1.2. Aug. 1916 to May 1917 Structural Draftsman and Designer with Stone & Webster, on reinforced concrete details for steam power plants and factories, Boston, Mass. TT 0.8: P 0.8: D 0.8. May 1917 to Feb. 1918 Designer, structural steel and reinforced concrete, Fargo Eng. Co., Jackson, Mich., until Aug. 1917 on steam power plants; then Engr.-Constructor on remodeling hydro-electric plant at Petoskey, Mich. TT 0.7: P 0.7: RC 0.5: D 0.4. Feb. to April 1918 Engr., Danis-Hunt Constr. Co., Dayton, Ohio, on large reinforced concrete reservoir for the city. TT 0.2: P 0.2: RC 0.2. April 1918 to Dec. 1921 with Miami Conservancy Dist., Dayton, until Aug. 1918 as Inspector on Englewood Dam; then Asst. Div. Engr. on Taylorsville Dam; flood prevention project, including hydraulic fill dam construction and massive concrete structures. TT 3.7: P 3.7: RC 2.3. Jan. to Aug. 1922 with L. A. Marshall, Gen. Contr., public works, Dayton, estimating, soliciting and supervising street pavements and highways. TT 0.6: SP 0.6. Aug. 1922 to Feb. 1923 Supt. of Constr. and Constr. Engr. on hydro-electric development, including construction of long hydraulic fill embankment for Traverse City, Mich. TT 0.6: P 0.6: RC 0.6. March 1923 to Jan. 1924 with L. A. Marshall, Gen. Contr., Dayton, public works contracts and developing real estate. TT 0.8: P 0.8: RC 0.8: D 0.5. Jan. 1924 to date with Fargo Eng. Co. as Constr. and Superv. Engr.; Superv. Engr. on Fullerton, Nebr., Rockford, Ill., and Mitchell, Iowa, Projects, investigations, reports and supervision hydro-electric developments. TT 1.3: P 1.3: RC 1.3: D 1.3. TT 17.8: SP 3.9: P 13.9: RC 10.9: D 3. Refers to J. S. Bowman, W. G. Fargo, H. S. Hunt, G. H. Matthes, A. E. Morgan, C. H. Paul, W. M. Smith.

691 (15) GILCHRIST, GIBB (formerly Gilbert Houston Gilchrist), Assoc. M., 1304 Santa Fe Bldg., Dallas, Tex. (Elected March 9, 1920.) (Age 37. Born Wills Point, Tex.) 1909 C. E., Univ. of Tex. Feb. 1910 to Dec. 1917 with Gulf, Colorado & Santa Fe Ry. as Chainman, Rodman, Instrumentman and Asst. Engr., responsible work on construction, two water systems at Lometa and Goldthwaite, for latter selected the site and worked out general plan; Locating and Constr. Engr. on reconstruction of 22 miles of G. & I. Ry.; located Gulf, Texas & Western Ry. from Newton to Wiergate, Tex., being the Constr. Engr. TT 9.8: SP 4: P 5.8: RC 4: D 1. Dec. 1917 to July 1919 with U. S. Army, finally as Capt. of Engrs. TT 1.5: P 1.5. Nov. 1919 to May 1921 Div. Engr., State Highway Dept., at San Antonio, Tex. TT 1.5: P 1.5: RC 1.5: D 1.5. May 1921 to Dec. 1923 Engr. in charge of highway and bridge work in Tom Green County, Tex., all design, including important bridge structures. TT 2.5: P 2.5: RC 2.5: D 2.5. Dec. 1923 to Feb. 1924 Supt. of Aid projects, having charge of construction on all projects for the State. TT 0.2: P 0.2: RC 0.2: D 0.2. Feb. 1924 to Feb. 1925 State Highway Engr. of Texas. At present in

private practice as Cons. Engr. at Dallas, Tex. *TT 1: P 1: RC 1: D 1. TT 16.5: SP 4: P 12.5: RC 9.2: D 6.2.* Refers to J. C. Nagle, J. E. Pirie, T. U. Taylor, G. G. Wickline, R. J. Windrow, J. F. Witt.

692 (10) **GRAHAM, GEORGE ARCHIBALD**, Assoc. M., Nelson Bldg., Orange Ave., Daytona, Fla. (Elected Aug. 9, 1920.) (Age 50. Born Ft. Ricasoli, Valetta, Malta.) Sept. 1891 to Oct. 1894 articulated in Civ., Mun. and Ry. Eng. to Geo. Winship, Engr., London, England. *TT 3.1: SP 3.1.* Oct. 1894 to Nov. 1895 Asst. Engr., Urban Dist. Council of Southgate, London, England, on surveys and plans of new roads, sewers, etc. *TT 1.1: SP 1.1.* Nov. 1895 to Aug. 1896 Chf. Asst. Engr., Maldon, Essex, on plans for public water supply scheme and several sewerage and sewage-disposal schemes, new roads, etc. *TT 0.7: P 0.7.* Aug. 1896 to June 1904 Town Engr., Witney, Oxfordshire, England, management and control on construction, repair and maintenance work on roads, bridges, culverts, sewers, sewage-disposal and public water-supply works, house drainage, etc.; made and laid tar macadam roads; in construction of public water-supply scheme of the Town, acted as Res. Engr.; in private practice made surveys, prepared plans and estimates and supervised construction of several sewerage and public water-supply schemes. *TT 7.7: P 7.7: RC 7.7: D 7.7.* May 1905 to Sept. 1911 Asst. Engr. on survey and construction, National Transcontinental Ry. of Canada, 4 years on survey, 2½ years on construction, bridges, culverts, trestles, etc. *TT 6.3: P 6.3.* Jan. 1912 to July 1918 Engr. and Draftsman for City of Jacksonville, Fla., topographical survey of surface and subsurface conditions; plans, estimates, etc., for construction of underground electrical system, reconstruction of reinforced concrete reservoir, etc.; in private practice with City's Cons. Engrs., plans, etc., for construction of several large public works outside of the city, such as piers, docks, sea walls, etc. *TT 6.5: P 6.5: D 3.* July to Nov. 1918 Engr. and Draftsman, Bentley's Concrete Shipyard, Jacksonville, piers, bulkheads, etc. *TT 0.3: P 0.3.* Nov. 1918 to Oct. 1920 1st Lieut., Corps of Engrs., Officer in charge of sewerage and water works, Camp Dix, N. J., survey, plans and construction 4 miles of railway. *TT 1.9: P 1.9: RC 1.9: D 1.9.* Oct. to Dec. 1920 Engr. in charge making survey, etc., for Marine Ry. in Cuba. *TT 0.2: P 0.2: RC 0.2.* Dec. 1920 to Oct. 1921 Engr. and Surveyor, Atlantic Eng. & Constr. Co., Jacksonville, surveys and plans for city and county work, subdivisions, bulkheads, sea walls, roads, etc. *TT 0.8: P 0.8: RC 0.8: D 0.8.* Oct. 1921 to date in private practice at Daytona, as Cons. Engr. to Contrs. on sewerage and water-works schemes, plans for piers and bridges, reports thereon; surveys and plans for several thousands of acres in subdivisions, preparing plans, specifications and estimates for construction of roads, etc. *TT 3.8: P 3.8: RC 3.8: D 3.8. TT 32.5: SP 4.2: P 28.3: RC 14.4: D 17.2.* Refers to J. M. Braxton, W. P. Darwin, L. S. Doten, G. A. Johnson, M. Macartney.

693 (10) **GREEN, NATHANIEL WARREN**, Assoc. M., 215 Professional Bldg., Jacksonville, Fla. (Elected Junior Dec. 5, 1911; Assoc. M. Sept. 10, 1918.) (Age 37. Born near Helena, Ark.) 1906 B. A., Ky. Mil. Inst. June-Aug. 1906 Rodman and Instrumentman, Seaboard Air Line Ry. *TT 2.2: SP 2.2.* June 1907 to April 1910 County Highway Engr., Phillips County, Ark., on location, construction and maintenance of roads, bridges and drainage. *TT 2.8: SP 0.8: P 2: RC 1.* April 1910 to April 1912 City Engr., Helena, Ark., in charge of municipal improvements, sewerage, paving, drainage and street maintenance. *TT 2: P 2: RC 2: D 1.* April 1912 to Jan. 1914 in private practice, engineering and contracting, design and construction of reinforced concrete bridges and building work. *TT 1.7: P 1.7: RC 1.7: D 1.7.* March to May 1914 with F. W. Gibbs, Archt., Little Rock, Ark., as Inspector on reinforced concrete framing for court-house, and checking structural designs furnished by contractor. *TT 0.2: SP 0.2.* June 1914 to Sept. 1918 Office Engr. with Bonfoey & Elliott, Archts., Tampa, Fla., in charge of structural designs and supervision of structural work on a number of large buildings in reinforced concrete and steel framing. *TT 4.3: P 4.3: RC 4.3: D 4.3.* Oct. 1918 to Oct. 1919 Office Engr., A. Bentley & Sons Co., Jacksonville, Fla., in charge of Reinforcing Dept. on two 7500 reinforced concrete ships. *TT 1: P 1: RC 1: D 1.* Oct. 1919 to March 1920 with E. I. DuPont de Nemours Co., Wilmington, Del., and June 1920 to March 1921 with Favrot & Livaudals, Archts., New Orleans, La., as Designer of reinforced concrete and steel framing for a number of buildings. *TT 1.2: P 1.2: D 1.2.* March 1921 to July 1924 Office Engr. and Branch Mgr., Doullut & Williams Co., Inc., New Orleans, until Sept. 1921 and from Jan. to Aug. 1922 designing and estimating in Bldg. Dept.; after April 1923 Branch Mgr. in charge of branch office. *TT 2.3: P 2.3: RC 1.3: D 2.3.* Aug. 1924 to date Branch Mgr., Truscon Steel Co., Youngstown, Ohio, in charge of branch office, preparing structural designs, estimates and supervision of sales work. *TT 0.7: P 0.7: RC 0.7: D 0.7. TT 18.6: SP 3.3: P 15.3: RC 12.1: D 12.3.* Refers to C. G. Cappel, J. P. Ewin, G. A. Hanson, H. W. Hesterly, C. J. Hyer, B. S. Merrill, H. Stock.

**694 (10) GUYTON, MOSES JOSIAH**, Assoc. M., City Hall, Dublin, Ga. (Elected March 14, 1916.) (Age 45. Born in Laurens County, Ga.) 1902 Ph. B. in Eng. Course, Emory Coll. (now Emory Univ.) 1903 to 1907 in private practice at Dublin, Ga., surveying and mapping private estates, etc., including work for the City. *TT 6: SP 6.* 1907 to date City Engr. of Dublin, engaged as follows: 1907 to 1908 surveying and mapping the city, established grades for streets and sidewalks, designed and constructed storm-water drainage, and 6 lateral sewer lines to sanitary system, etc.; 1908 to 1909 (with Arthur Pew as Cons. Engr.) designed and constructed 25 blocks each of sanitary sewers and water mains, also 14-acre public park; topographical survey of public properties; force mains for public water supply; built concrete storage reservoir for water works; 1909 to 1911 as City Engr. assisted H. S. Jaudon in construction of certain brick pavements; constructed concrete curb and tile pavements; extended storm-water drainage, and design and construction of additional sanitary sewer facilities; detail maps for public records; 1911 to 1912 designed and constructed 8 blocks of vitrified brick pavement including drainage system, etc.; reinforced sanitary sewer system by 2 miles of trunk lines extended, 15 blocks of lateral sewers; various water main extensions, etc.; 1912 to 1916 designed and reconstructed water-works and power plant; became Gen. Mgr. of public utilities, and reorganized these departments; street grading and paving, concrete structures, machine specifications, etc.; 1916 to 1917 designed and let contract for construction of additional water-works facilities, including modern concrete filter plant; plans for other water-works betterment executed; two concrete culverts built; surveys and plans for numerous improvements after war; reports, etc.; 1918 to 1920 surveys, plans and specifications for new work, including bridge work, extension of utility service, street pavements, drainage, office records, etc.; completed repairs after war; reports, estimates, etc.; 1920 to 1923 filter plant built for Water-Works Dept., including iron-extraction process, settling basin, concrete walls and appurtenances; reports and estimates on high-economy power plant; also water softening plant; designed and constructed many small curb and sidewalk paving projects; sewer and water projects, etc.; 1923 to date designed and reconstructed water-works and power-plant equipment; design and drainage plans for street paving project; estimates and reports covering new high-efficiency steam turbine power plant; various drainage projects designed and completed, also sewer projects, etc.; Feb. 1925 elected City Agt. (pending charter enactment in June 1925 creating the office of City Mgr.). *TT 17: SP 1.4: P 15.6: RC 11: D 9.9. TT 23: SP 6.4: P 16.6: RC 11: D 9.9.* Refers to J. J. Galliard, W. D. Hull, H. S. Jaudon, W. C. Olsen, A. Pew.

**695 (10) HALL, JOHN WENDELL**, Assoc. M., Res. Engr., Wilson Dam, Florence, Ala. (Elected Sept. 9, 1919.) (Age 40. Born Wellesley, Mass.) 1911 B. S., Harvard Univ. Oct. 1905 to April 1907 Instrumentman and Inspector, Boston & Albany R. R., at Boston, on maintenance of way, yard and dock construction. *TT 1.5.* April to Aug. 1907 with Stone & Webster Eng. Corporation of Boston, on steam power plant construction as Inspector on pile-driving, foundations and masonry. *TT 0.4.* Aug. 1907 to Feb. 1908 with Boston Elevated Ry., Inspector in charge of building Custodis radial brick chimney and compressed air tunnel for intake for power-house condensing system. *TT 0.5.* Feb. 1908 to July 1911 student at college; summer vacations in Structural Steel Dept., Boston Elev. Ry.; on B. & A. R. R., and with contractor on tunnel section of Cambridge (Mass.) Subway. *TT 1.5.* July to Nov. 1911 Chf. of Party on survey, Downey (Idaho) Irrigation Co. *TT 0.3.* Nov. 1911 to Jan. 1914 with Mississippi Power Co. at Keokuk, Iowa, in charge of engineering work in power house setting turbine machinery, pit lines and masonry of substructure of power house. *TT 2.2: RC 2.2.* April to June 1914 with W. S. Barstow & Co., New York City, as Asst. Mech. Engr. on design of penstock and trestles for hydro-electric development at Rutland, Vt. *TT 0.2: RC 0.2: D 0.2.* June to Oct. 1914 with Hugh L. Cooper & Co., New York City, in charge of preliminary investigation survey for hydro-electric development at Davis, W. Va. *TT 0.4: RC 0.4.* Oct. 1914 to June 1917 (except Aug. to Oct. 1916 Field Engr. with John Laury, Jr., New York City, having title of Asst. Supt. laying out and planning masonry structures on estate of C. M. Schwab at Loretta, Pa.) Shift Engr. on East River Tunnels for Public Service Comm. of New York City. *TT 2.7: RC 2.7.* June 1917 to April 1920 Res. Engr. representing Hugh L. Cooper & Co. on construction of dam and hydro-electric power plant for City of Rochester, Minn. *TT 2.8: RC 2.8.* April 1920 to date Res. Engr. representing Hugh L. Cooper & Co., Cons. Engrs., in all matters pertaining to building of Wilson Dam at Muscle Shoals, Ala. *TT 5.1: RC 5.1. TT 17.6: RC 13.4: D 0.2.* Refers to H. F. Anthony, D. P. Cooper, H. L. Cooper, M. Elliott, R. Ridgway, F. C. Shenehon, M. C. Tyler.

**696 (9) HALL, JOSEPH EMMETT**, Assoc. M., 4056 Board of Trade, Indianapolis, Ind. (Elected Junior June 30, 1910; Assoc. M. May 28, 1912.) (Age 41. Born Oxford, Ind.) 1906 B. S. C. E., Purdue Univ. June 1906 to Dec. 1907 with Mansfield Eng. Co.,

Indianapolis, Ind., surveying for interurban traction lines, designing bridges and buildings, Supt. of Constr. on buildings. *TT 3.5: RC 0.5: D 0.5.* Jan. 1908 to Sept. 1909 Estimating Engr., Westlake Constr. Co., St. Louis, Mo., estimating and designing reinforced concrete and steel structures. *TT 1.9: D 1.9.* Oct. 1909 to Feb. 1910 Civ. Engr., Union Elec. Light & Power Co., St. Louis, Mo., on designing of new power plant. *TT 0.4: RC 0.4: D 0.4.* March 1910 to date Secy. then Pres., Hall Constr. Co., Gen. Contrs., Indianapolis, buildings, bridges, roads and pavements, principally fireproof buildings, from Aug. to Nov. 1918 Supt. of Constr. and Maintenance, A. S. A. P., McCook Field, Dayton, Ohio, in charge of all construction work. *TT 15: RC 15: D 8.* *TT 20.8: RC 15.9: D 10.8.* Refers to A. H. Blanchard, C. Brossman, H. O. Garman, W. K. Hatt, C. H. Hurd, W. H. Insley, L. O. Knowlton, J. A. McKim, L. V. Sheridan.

697 (6) **HANDLEY, HARVEY LOCKHART**, Assoc. M., Lewisburg, W. Va. (Elected July 2, 1913.) (Age 39. Born Lewisburg, W. Va.) 1906 B. S. and C. E., Washington and Lee Univ. June 1906 to Jan. 1907 Instrumentman, Kentucky Coal & Lumber Co. *TT 2.5: SP 2.5.* Jan. 1907 to Nov. 1908 Engr., Thurmond Coal Co. *TT 1.8: P 1.8.* Nov. 1908 to Aug. 1909 on private surveys in Pike County, Ky. *TT 0.7: P 0.7.* 1909 to May 1911 Chf. of Party, Greenbrier, Cheat & Elk Ry., on location and construction. *TT 1.7: P 1.7: RC 1.7.* May 1911 to Aug. 1916 Chf. Engr., Yankee Fuel Co. and Allied Companies, on design and construction of complete mining plant. *TT 5.2: P 5.2: RC 5.2: D 5.2.* Aug. 1916 to Nov. 1922 Mgr. of Mines, Carbon Coal & Clay Co. *TT 6.2: P 6.2: RC 6.2: D 3.* Nov. 1922 to date County Engr., Greenbrier County, W. Va., in charge of location and construction of all county roads and location and design of all bridges also maintenance of 900 miles of county roads. *TT 2.7: P 2.7: RC 2.7: D 2.7.* *TT 21: SP 2.5: P 18.5: RC 15.9: D 10.9.* Refers to H. R. Anderson, W. Brewster, H. Frazier, M. Hansford, J. K. Monroe, F. K. Rader.

698 (4) **INGRAM, EDWARD LOVERING**, Assoc. M., 3643 Locust St., Philadelphia, Pa. (Elected Sept. 4, 1895.) (Age 62. Born Philadelphia, Pa.) 1885 C. E., Columbia Univ. Aug. 1885 to March 1886 Draftsman (5 months) and Inspector (3 months), War Dept., U. S. Govt., river and harbor improvements, Delaware, drafting, dredging. *TT 2.7: SP 2.7.* April 1886 to April 1887 and Jan. to Sept. 1890 in private practice at Grand View, N. Y., surveying, frame building design and construction. *TT 1.8: P 1.8: RC 1.8: D 1.* May 1887 to Dec. 1889 Recorder (4 months), Surveyor (4 months), Inspector (4 months), Inspector and Master of Plant (1 year), lost time (7 months) (in 1888 on various work), U. S. War Dept., river and harbor improvements, New York and New Jersey, tide-gauging, diking, surveying and dredging. *TT 2: SP 1: P 1: RC 0.5: D 0.1.* Oct. 1890 to Dec. 1891 Draftsman (8 months) and Asst. Engr. (6 months), U. S. War Dept., river and harbor improvements, Florida, drafting and surveying. *TT 1.2: SP 0.7: P 0.5: RC 0.1: D 0.1.* Dec. 1891 to Nov. 1894 Asst. Engr., International Boundary Survey, United States and Mexico, State Dept., U. S. Govt., boundary location and monument erection in New Mexico, Arizona and California, in field charge of line, topographical and monument work, camp and supplies. *TT 2.9: P 2.9: RC 2.9.* Nov. 1894 to April 1901 in private practice, surveying in Buffalo (4½ years), and frame building design and construction in Grand View (1½ years). *TT 6.3: P 6.3: RC 6.3: D 1.* April to May 1901 Asst., Dept. of the Interior, U. S. Govt., topographical surveying, Catskill Mts., N. Y., in field charge of party. *TT 0.1: P 0.1: RC 0.1.* May to Nov. 1901 Transitman, New York Central & Hudson River R. R., in field charge of realignment from Herkimer to Syracuse, N. Y. *TT 0.5: P 0.5: RC 0.5.* Nov. 1901 to Aug. 1906 Expert Aid (Civ. Engr.), Navy Dept., U. S. Govt., Aid to Commissioned C. E. Officers in all civil engineering work in New York Navy Yard, reports, specifications, design, construction and inspection. *TT 4.8: P 4.8: RC 2: D 1.* Sept. 1906 to date at Univ. of Pennsylvania, until Aug. 1911 as Asst. Prof. of Civ. Eng., and since then Prof. of R. R. Eng. and Geodesy, in charge of courses in Surveying, Geodesy, R. R. Eng. and R. R. Economics. *TT 18.7: P 18.7: RC 18.7.* *TT 41: SP 4.4: P 36.6: RC 32.9: D 3.2.* Refers to W. Easby, Jr., R. L. Humphrey, M. S. Ketchum, R. V. A. Norris, H. H. Quimby, S. T. Wagner, G. S. Webster, F. P. Witmer.

699 (11) **JACOB, ELMER ACRED**, Assoc. M., Provo, Utah. (Elected Oct. 10, 1916.) (Age 41. Born Heber, Utah.) 1913 B. S. C. E., Univ. of Wis. 1904 (over 2 months) Chairman with Scott P. Stewart, Provo, Utah. *TT 2.2.* 1907 (nearly 5 months) Asst. City Engr. of Provo, in charge of surveys and construction of about 25 miles of concrete sidewalk paving. *TT 0.4.* 1907 to 1912 City Engr. of Provo, in charge of new water system (cost \$200 000), sewers (cost \$250 000) city canal system, streets, etc., design of all engineering structures; private work on irrigation and land surveys. *TT 4.2: RC 4.2:*



**D 4.2.** 1913 to 1914 Superv. Engr., Wheelright Constr. Co. of Ogden, Utah, in charge of sidewalk construction in Provo, and water-works system, Payson, Utah. *TT 0.6: RC 0.6.* 1914 to 1919 Res. Engr. and Acting Chf. Engr., Sevier River Land & Water Co., at Lyndyl, Utah, direct charge field and office engineering for 50 000-acre irrigation project; designed canal structures. *TT 5: RC 2: D 4.* 1919 to 1920 Mgr., Jacob Ranch Co. and private engineering practice. *TT 1: RC 1.* 1920 to 1924 Irrigation Engr., Provo Reservoir Co., Utah Lake Irrigation Co., and Goshen Valley Irrigation Co., in charge of water supply, field surveys and office engineering. *TT 4.8: RC 4.8: D 3.* 1924 to date Engr., Provo Reservoir Water Users Co. and Utah Lake Distributing Co., in charge of water supply and distribution on 25 000 acres irrigated lands. *TT 0.3: RC 0.3.* Also (1907 to date) in private practice, in charge of water-works systems of Leamington and Orem, Utah, also miscellaneous mining and land surveys and mapping for various companies. *TT 18.5: RC 12.9: D 11.2.* Refers to R. K. Brown, F. W. Cottrell, C. S. Jarvis, H. S. Kleinschmidt, R. R. Lyman, W. D. Pence, E. A. Porter, A. B. Purton.

**700 (15) JAMESON, ROBERT OLEN,** Assoc. M., 1005 Southwestern Life Bldg., Dallas, Tex. (Elected March 11, 1919.) (Age 34. Born Denton, Tex.) 1915 C. E., Univ. of Tex. June 1908 to Oct. 1916 Structural Draftsman, Checker and Designer, Mosher Steel & Machinery Co. (except 1911 to 1915 while student). *TT 6.8: SP 5.6: P 1.* Oct. 1916 to Oct. 1918 Chf. Draftsman, same Company, in charge (under Chf. Engr.) of shop details. *TT 2: P 2: RC 2: D 1.* Oct. 1918 to Oct. 1921 Chf. Engr., W. C. Hedrick Constr. Co., in charge of all designs and estimates for buildings. *TT 3: P 3: RC 3: D 3.* Oct. 1921 to date in private practice as Cons. Structural Engr., designing concrete and steel frames; structures designed include 16-story Cotton Exchange Bldg. at Houston, and 20-story Republic Bldg., Dallas, Tex. *TT 3.5: P 3.5: RC 3.5: D 3.5.* *TT 15.3: SP 5.8: P 9.5: RC 8.5: D 7.5.* Refers to J. H. Brillhart, E. Couch, H. E. Elrod, F. E. Giesecke, E. N. Noyes, W. J. Powell, T. U. Taylor.

**701 (5) JONES, ERNEST LESTER,** Assoc. M., U. S. Coast and Geodetic Survey, Washington, D. C. (Elected April 3, 1922.) (Age 49. Born East Orange, N. J.) 1919 A. M., Princeton Univ. Prior to 1915 Deputy Commr., U. S. Bureau of Fisheries, most important work being conducting of field investigation (1914) of navigational and other needs of Territory of Alaska. April 1915 to date (except during World War with U. S. Army in the United States, France and Italy) with U. S. Coast and Geodetic Survey as Supt. and Director (former title changed to latter in 1920) and (since April 1922) Hydrographic and Geodetic Engr.; had direct and intimate connection with technical work of Bureau in geodesy, hydrography, topography, terrestrial magnetism, seismology, tides, currents and gravity; acted as Commr. for United States on International Boundary Comm., United States and Canada. *TT 10: P 10: RC 10: D 10.* Refers to W. Bowie, R. L. Faris, S. W. Fox, N. H. Heck, W. E. Parker, R. S. Patton, T. Riggs, C. O. Sherrill.

**702 (2) KHACHADOORIAN, HARRY HOVHAN,** Assoc. M., 8 Leyfred Terrace, Springfield, Mass. (Elected Jun. Dec. 3, 1912; Assoc. M. Oct. 10, 1916.) (Age 38. Born Aintab, Cilicia, Armenia.) 1912 B. S. in C. E., and 1920 C. E., Univ. of Vt. March 1911 to Aug. 1912 with McIntosh & Crandall, Civ. Engrs., Burlington, Vt., as Draftsman, Computer, Transitman and at times in charge in field; made topographic survey and map of over 160 acres for W. H. Minor project in West Chazy, N. Y. *TT 2.8: SP 2.4: P 0.4: RC 0.3.* Aug. 1912 to June 1914 with National Transcontinental Ry. of Canada, Quebec Dist., in charge (under R. A. Black), Final Estimate Dept.; later Res. Engr., Residency 1A, Div. 1 (1 year); then Div. Engr., Div. 1 (53 miles) (3 months); mostly final measurement and computations for preparing final estimates, also construction of water stations, pump stations, spurs, etc. *TT 1.9: P 1.9: RC 1.9.* July 1914 to July 1916 Engr. in Chg., Cavicchi & Pagano, Ry. Contrs., Quebec and Halifax, on regular work, estimating for new contracts, made full investigation on Dartmouth to Deans Branch (67 miles), Intercolonial Ry. of Canada, to settle sub-contractors claims. *TT 2: P 2: RC 2.* Aug. to Dec. 1916 Draftsman, Levering & Garrigues Co., New York City, on structural detailing and designing. *TT 0.4: SP 0.2: P 0.2: D 0.2.* Jan. to April 1917 with U. S. Geological Survey, Water Resources Branch, Boston, Mass., river discharge measurements, working up data and studying effect of ice to flow of waters in rivers. *TT 0.3: SP 0.2: P 0.1.* April to Aug. 1917 Designing Engr. with Monks & Johnson, Engrs. and Archts., Boston, designing and checking designs of reinforced concrete, steel and wooden buildings. *TT 0.4: P 0.4: D 0.4.* Sept. 1917 to Dec. 1919 with U. S. Army; 1st Lieut., Engrs.; from Sept. to Nov. 1917 as Student Officer, Engineers Training Camp, Washington, D. C.; Dec. 1917 to March 1918 Inspecting Officer, Office of Director Gen. of Military Rys., Washington, D. C.; April to Aug. 1918 with

55th Regt. Ry. Engrs.; commanded B Co. during organization of Regiment; in France (after June 1918) in charge of Labor Battalion constructing railways, warehouses, etc.; Sept. to Dec. 1918 with 6th Engrs. (regular), 3d Div. at front in Argonne-Meuse action; Jan. to July 1919 with American Commission to negotiate peace, Paris; member, American Intelligence Mission to Transcaucasia, prepared reports on agricultural, industrial, economic, military, etc., conditions of republics of Armenia, Azerbaijan and Georgia; Aug. to Nov. 1919 member, American Military Mission to Armenia, studying question of United States taking Mandate of the Near East. *TT 2.3: P 2.3: RC 2.3: D 0.3.* Oct. to Sept. 1921 in charge and Chf. Engr., Public Works Dept. in Alexandretta Province, Syria, for French Govt., constructing highways and public buildings, drainage of vast marshy lands around City of Alexandretta, designs of masonry structures, also private consulting work. *TT 1: P 1: RC 1: D 1.* Oct. 1921 to March 1924 Director, Building Dept., Near East Relief, and Gen. Director, Armenian Orphan and Refugee Relief, Constantinople, construction of office buildings, orphanages, warehouses, etc.; in complete charge of 7 000 refugees and 2 000 orphans, 1½ years being executive work. *TT 1: P 1: RC 1: D 0.5.* May to Dec. 1924 Asst. Locating Engr., Fonda, Johnstown & Gloversville Ry., relocation of Gloversville to Northville Branch. *TT 0.5: P 0.5.* Dec. 1924 to date Engr., Water Dept., City of Springfield, Mass., in charge of preliminary work in determining additional reservoir sites. *TT 0.6: P 0.6: RC 0.6: D 0.2.* *TT 13.2: SP 2.8: P 10.4: RC 9.1: D 2.6.* Refers to E. L. Daley, J. W. Elliott, F. W. Henricl, M. Linenthal, E. E. Lochridge, C. H. Pierce, W. J. Wilgus.

**703 (10) KITCHEN, ERNEST**, Assoc. M., Director, Public Works, St. Petersburg, Fla. (Elected March 13, 1917.) (Age 37. Born Philadelphia, Pa.) 1911 B. S. in S. E., Pa. State Coll. 1911 to 1916 Supt. of Waterfront and Asst. City Engr., and 1916 to 1917 City Engr., St. Petersburg, Fla. *TT 8: SP 2: P 6: RC 1.* 1917 Res. Engr., J. B. McCrary Co., Anderson, S. C., and Atlanta, Ga. *TT 0.8: P 0.8.* Jan. to March 1918 at Officers' Training Camp, Camp Lee, Va. *TT 0.3: P 0.3.* March 1918 to Oct. 1920 Capt., U. S. Army; Officer in charge of engineering, Guard Barracks, Lamberts Point, Norfolk, Va. (nearly 9 months), and of Harwood Mills Water Development (\$1 000 000) (1 year); Constr. Quartermaster, Army and Navy Hospital, Hot Springs, Ark. (over 9 months). *TT 2.5: P 2.5: RC 2.5.* Jan. 1921 to Nov. 1922 in private practice, at Syracuse, N. Y., engineering and surveying. *TT 1.9: P 1.9: RC 1.9.* Nov. 1922 to July 1923 Res. Engr., Gandy Bridge (\$3 000 000), across old Tampa Bay. *TT 0.6: P 0.6: RC 0.6.* July 1923 to date Director, Public Works, City of St. Petersburg, in full charge of all engineering (approx. \$8 000 000 annually). *TT 1.9: P 1.9: RC 1.9.* *TT 16: SP 2: P 14: RC 7.9.* Refers to C. E. Burleson, W. J. Douglas, E. Klapp, A. B. Overland, G. A. Youngberg.

**704 (9) LANE, EMORY WILSON**, Assoc. M., 1038 Heath St., Lafayette, Ind. (Elected Junior March 4, 1914; Assoc. M. April 14, 1919.) (Age 34. Born Lafayette, Ind.) 1912 B. S. in C. E., Purdue Univ. 1914 C. E., Cornell Univ. July 1912 to Sept. 1913 Computer, Morgan Eng. Co., Memphis, Tenn., mapping, profiles, earthwork computations and benefit assessments for drainage and levee systems. *TT 3.2: SP 2: P 1.2.* Oct. 1914 to June 1917 Computer, Miami Conservancy Dist., Dayton, Ohio, computations for design of flood prevention works of Dayton and vicinity balancing of detention basins, hydrographic studies, stream measurements, benefit assessments. *TT 2.7: P 2.7.* June 1917 to Dec. 1918 Asst. Supt. of Constr., Dept. of Military Aeronautics, Supply Section, construction of aviation camps at Rantoul, Ill., Lake Charles, La., and Arcadia, Fla., design of drainage, waterworks and sewerage system for Dorr Field, Arcadia, Fla. *TT 1.5: P 1.5: RC 1.5: D 1.* Jan. 1919 to Feb. 1920 Computer and Asst. Engr., Miami Conservancy Dist., Dayton, hydraulic studies, technical reports and in charge of construction of improvements at Troy, Ohio. *TT 1.1: P 1.1: RC 0.3: D 0.5.* Feb. to June 1920 Special Agt., Bureau of Census, Dept. of Drainage, collection of data on drainage in parts of Missouri, Arkansas and Louisiana. *TT 0.4: P 0.4.* July to Aug. 1920 inspection trip through Eastern United States visiting hydraulic engineering developments. *TT 0.1: P 0.1.* Sept. 1920 to Sept. 1923 Technical Advisor, Grand Canal Improvement Board, Yangchow, and Shore Protection Bureau, Nantunghow, China, representing Morgan Eng. Companies, investigation for flood prevention and modernization of Grand Canal, construction of river bank protection and flood relief sluices and channels. *TT 3: P 3: RC 3: D 3.* Dec. 1923 to date Asst. Engr., Morgan Eng. Co., Pueblo, Colo., design of flood prevention work for Pueblo, including design of channel, detention basin studies, dam design, foundation investigation and work as Office Engr. *TT 1.4: P 1.4: RC 1.4: D 1.4.* *TT 13.4: SP 2: P 11.4: RC 6.2: D 5.9.* Refers to C. A. Bock, E. L. Chandler, O. N. Floyd, K. C. Grant, I. E. Houk, G. H. Matthes, A. E. Morgan, S. M. Woodward.

**705 (15) LOCHRIDGE, JAMES LEWIS**, Assoc. M., 2003½ Main St., Dallas, Tex. (Elected Aug. 28, 1922.) (Age 37. Born Ft. Worth, Tex.) 1910 B. S. in Civ. Eng., Tex. Agril. and Mech. Coll. Sept. 1910 to Jan. 1911 Rodman, Chairman and Draftsman, Burleson County Improvement Dist. No. 1, on levee construction. *TT 2.3: SP 2: P 0.3.* Feb. to July 1911 Draftsman, general civil engineering practice, land surveying and drainage at Bay City, Tex. *TT 0.5: P .05.* July 1911 to Oct. 1914 with Medina Valley Irrigation Co. as Field Draftsman, about 2 years on topography, surveying and canal construction, and about 1½ years Office Engr. in general office. *TT 3.2: P 3.2: RC 3.2: D 1.* Oct. to Nov. 1914 Engr. on drainage survey for Jackson County, Tex. *TT 0.2: P 0.2: RC 0.2: D 0.2.* Jan. to March 1915 Location Engr. on preliminary railway survey, Wichita Falls, Tex., to Walters, Okla. *TT 0.2: P 0.2: RC 0.2.* Jan. to Feb. 1916 Land Map Draftsman for Live Oak County, Tex. *TT 0.2: P 0.2.* Feb. 1916 to Nov. 1917 Draftsman, Valuation Dept., Gulf, Colorado & Santa Fe Ry. (about 11 months) and Atchison, Topeka & Santa Fe Ry. (about 10 months). *TT 1.7: P 1.7.* Nov. 1917 to Sept. 1920 Field Engr. in charge of irrigation investigations, U. S. Bureau of Public Roads, cooperating with Texas State Board of Water Engrs., studying duty of water and drainage of irrigated lands. *TT 2.8: P 2.8: RC 2.8.* Sept. 1920 to Sept. 1921 Instructor in, and Sept. to Nov. 1921 Associate Prof. of, Civ. Eng., Agricultural and Mechanical Coll. of Tex. *TT 1.2: P 1.2.* Nov. 1921 to April 1924 Office and Designing Engr., Wichita County Water Improvement Dist. No. 1, on design and construction of two large dams, and all the irrigation structures. *TT 2.3: P 2.3: RC 2.3: D 2.3.* April 1924 to date Designing Engr. for City of Dallas, on design and construction of Garza Dam. *TT 1.2: P 1.2: RC 1.2: D 1.2.* *TT 15.8: SP 2: P 13.8: RC 10: D 4.7.* Refers to O. N. Floyd, L. L. Hidingier, H. F. McFarland, J. C. Nagle, J. J. Richey, W. L. Rockwell, R. A. Thompson, J. F. Witt:

**706 (5) LYLE, WILLIAM THOMAS**, Assoc. M., 2003½ Main St., Dallas, Tex. (Elected (Age 50. Born Utica, N. Y.) 1896 C. E., Princeton Univ. May 1897 to Dec. 1900 Chainman to Asst. Engr., Essex County (N. J.) Park Comm., surveys, excavation, sewer, pavement, masonry and bridge contracts. *TT 5.6: SP 3.6: P 2: RC 1.* Jan. to Dec. 1901 Engr. for James Seme, Gen. Contr., prepared bids for excavation, sewers and pavements. *TT 1: P 1: RC 1.* Jan. to Sept. 1902 in private practice, municipal work, surveys, bids and estimates. *TT 0.7: P 0.7: RC 0.5.* Sept. 1902 to June 1907 Instructor in Civ. Eng., Univ. of Pennsylvania; June 1907 became Asst. Prof. *TT 5: P 5.* Sept. 1907 to Sept. 1910 Asst. Prof. and Sept. 1910 to June 1918 Prof. of Municipal Eng., Lafayette Coll. *TT 10.7: P 10.7: RC 8: D 8.* June 1918 to Sept. 1919 Civ. Engr., on water power and survey work, Taylor-Wharton Iron & Steel Co., High Bridge, N. J. *TT 1.3: P 1.3: RC 1.3: D 1.3.* Sept. 1919 to Sept. 1921 Lecturer in Eng. Drawing, Rice Inst.; also city planning lectures for City of Houston. *TT 2: P 2: RC 2: D 2.* Sept. 1921 to date Prof. of Civ. Eng., Washington & Lee Univ., in charge of Dept. *TT 3.8: P 3.8: RC 3.8: D 3.8.* *TT 30.1: SP 3.6: P 26.5: RC 17.6: D 15.1.* Refers to H. J. Cole, F. H. Constant, W. Easby, Jr., H. P. Hammond, J. M. Howe, J. B. Townsend.

**707 (2) MANNING, JAMES HENRY**, Assoc. M., 147 Milk St., Boston, Mass. (Elected Jan. 3, 1911.) (Age 41. Born Fall River, Mass.) 1906 B. S., Worcester Pol. Inst. June 1906 to May 1910 with Hugh L. Cooper, Cons. Hydr. Engr., as Office Draftsman, design of permanent structures; field engineering, surveying and design of temporary structures; Res. Engr. at Hauser Lake, Mont.; Inspector and Concrete Foreman at McCall Ferry, Pa., on McCall Ferry Power Co. *TT 6: SP 4: P 2: RC 1: D 2.* May 1910 to date (except 1917 to 1919 Chf. Engr. in charge of plant design and Asst. Mgr. of machinery installation in shops, American International Shipbuilding Corporation) with Stone & Webster, Inc., as follows: May 1910 to 1913 Supt. of Constr., Constr. Dept., on hydro-electric plants at Franklin, N. H., Verdi, Nev., and White Salmon, Wash., and various engineering reports; 1913 to 1917 Consultant on hydraulic engineering work and Hydr. Engr. in charge of hydraulic reports and design; 1919 to 1922 Asst. Eng. Mgr. in immediate charge of design and engineering work; since 1922 Engr. Mgr. in general charge of all engineering, design and reports, including hydro-electric plants, transmission line, substation, steam plants, buildings, etc. *TT 15: P 15: RC 15: D 15.* *TT 21: SP 4: P 17: RC 16: D 17.* Refers to J. H. Hood, I. W. McConnell, W. N. Patten, P. L. Pierce, W. F. Uhl, L. C. Wason.

**708 (12) RANDS, HAROLD ALVA**, Assoc. M., 606 Couch Bldg., Portland, Ore. (Elected April 2, 1912.) (Age 54. Born Stacyville, Iowa.) 1901 A. B., Cornell Univ. July to Nov. 1901 and May to Nov. 1902 and 1903 Contract Deputy on U. S. land surveys in Idaho; remainder of these years in general practice at Oregon City, Ore. *TT 2.5: SP 1: P 1.5: RC 1.5.* April 1904 to April 1905 City Engr. of Oregon City. *TT 1: P 1: RC 1.* May to

Dec. 1905 and Sept. to Dec. 1906 Contract Deputy on Coeur d'Alene Reservoir surveys in Idaho. *TT 1: P 1: RC 1.* Jan. to April and July and Aug. 1906 on retracement surveys for Columbia Valley R. R. Co. *TT 0.5: P 0.5: RC 0.5.* Feb. to May 1907 on power reservoir for Portland Ry. Light and Power Co. (now Portland Elec. Power Co.) *TT 0.3: P 0.3: RC 0.3.* June to Nov. 1907 and April to July 1908 Contract Deputy on Colville Reservoir survey in Washington. *TT 0.8: P 0.8: RC 0.8.* Remainder of 1907 and 1908 and until Nov. 1909 in general engineering practice at Oregon City and Portland. *TT 1.7: P 1.7: RC 1.7.* Dec. 1909 to Jan. 1912 Prin. Asst. Engr. on construction of Estacada Plant of Portland Elec. Power Co. (\$1 800 000). *TT 2.2: P 2.2.* Feb. to May 1912 Asst. Engr., U. S. Reclamation Service on grouting of Lahontan Dam. *TT 0.3: P 0.3* June 1912 to March 1914 with Portland Elec. Power Co. on power surveys, plans, estimates and designs, Clackamas and Sandy Rivers. *TT 1.8: P 1.8: RC 1.8.* April 1914 to Dec. 1915 Engr. on location and construction of South Fork Pipe Line for Oregon City (3 000 000 gal., \$350 000); also Cons. Engr. for West Linn distribution system (75 000). *TT 1.8: P 1.8: RC 1.8.* Jan. to Dec. 1916 member of firm, Rands and White, Portland. *TT 1: RC 1.* March to Sept. 1918 traffic and port district survey of Columbia and Snake Rivers for Port of Portland Comm. *TT 0.6: P 0.6: RC 0.6.* Oct. 1918 to Jan. 1919 on reconnaissance and report work for Mason Valley (Nev.) Mines Co. *TT 0.3: P 0.3: RC 0.3.* May to Dec. 1919 on power surveys, plans and estimates for Portland Elec. Power Co. *TT 0.7: P 0.7: RC 0.7.* Dec. 1919 to June 1920 Highway Engr. for Clackamas Co., Ore. *TT 0.5: P 0.5: RC 0.5.* July 1920 to Feb. 1922 in general engineering practice, Portland, for Portland Elec. Power Co., North Coast Power Co., Oregon Iron and Steel Co., Crown Willamette Paper Co., White Salmon Irrig. Dist., and others. *TT 1.7: P 1.7: RC 1.7.* March 1922 to Jan. 1925 Project Engr., Oak Grove Project, Portland Elec. Power Co. (installed 35 000 h.p., ultimate 105 000 h.p.). *TT 1.9: P 1.9: RC 1.9.* *TT 20.6: SP 1: P 19.6: RC 17.1.* Refers to F. S. Baillie, D. W. Cole, A. S. Crane, F. I. Fuller, D. C. Henny, E. G. Hopson, G. C. Mason, W. L. Sharp, J. L. Stannard.

**709 (1) ROBB, LOUIS ADAMS**, Assoc. M., Halesite, N. Y. (Elected Junior May 5, 1903; Assoc. M. Oct. 5, 1904.) (Age 48. Born Newark, N. J.) 1899 C. E., Princeton Univ. 1899 to 1902 Rodman, Pennsylvania R. R., maintenance and construction. *TT 5: SP 5* 1902 to 1905 Prin. Asst. to W. P. Field, Cons. Engr., Newark, N. J., building design and supervision. *TT 3: P 3: RC 3: D 3.* 1905 to 1907 Chf. of Party, Pennsylvania Tunnel & Terminal R. R., surveys and preliminary designs for Sunnyside Yards, Long Island City. *TT 2: P 2: RC 2: D 1.* 1907 to 1910 Asst. Engr. and Res. Engr., Degnon Contr. Co., Sunnyside Yard Contract and 6th Ave. Subway. *TT 3: P 3: RC 3: D 2.* 1910 to 1913 Supt., concrete building construction, Turner Constr. Co. *TT 3: P 3: RC 3.* 1913 to 1917 Gen. Supt. on industrial buildings, Levering & Garrigues Co. *TT 4: P 4: RC 4.* 1917 to date Vice-Pres., Ambursen Constr. Co., on design and construction of reinforced concrete dams. *TT 8: P 8: RC 8: D 4.* *TT 27.5: SP 4.5: P 23: RC 23: D 11.* Refers to E. Y. Allen, N. F. Ambursen, R. V. Banta, W. C. Briggs, E. H. Burroughs, Jr., J. A. Ely, R. P. Gustin, H. D. Hynds, G. M. Kilcarr, B. Kipp, H. M. Nabstedt, C. E. Parsons, J. P. H. Perry, R. R. Rumery, K. G. Smith, T. A. Smith, S. W. Stewart, E. Sudler, A. C. Tozzer, C. B. Wigton, E. B. Wilson.

**710 (11) ROTHERY, SYDNEY LIONEL**, Assoc. M., Box 444, Calexico, Cal. (Elected Jan. 17, 1921.) (Age 37. Born Orange, N. S. W., Australia.) Feb. 1905 to Jan. 1907 Apprentice in Mech. Eng. on machine shop work, with Hipsley & Waddell, Sydney, Australia. *TT 1.9: SP 1.9.* Jan. 1907 to Jan. 1910 Apprentice with T. H. Houghton, Civ. and Mech. Engr., Sydney, on building construction, and mechanical design chiefly. *TT 3: SP 3.* Jan. to Dec. 1910 Draftsman and Levelman in Eng. Dept., City Municipal Council of Sydney. *TT 0.9: P 0.9.* Dec. 1910 to Oct. 1917 Asst. Engr. on railroad construction, 6 years in field with Public Works Dept. (4 years) and with Norton Griffiths & Co., Contrs. (2 years), and 10 months drafting in head office. *TT 6.8: P 6.8: RC 6: D 2.4.* Nov. 1917 to Jan. 1918 drafting work at Camp Fremont, San Francisco, for G. A. M. Elliot. *TT 0.2: SP 0.2.* March 1918 to Sept. 1920 Office Engr. of Imperial Irrigation Dist., at Calexico, Cal., on design of large canal structures, supervision of drafting room, preparation of specifications and contracts for construction work; since Sept. 1920 Office Engr. and Head of Eng. Dept. of this District, in charge of direction of field surveys, investigations, estimates, calling for materials of construction and following field progress of building; supervision of designs for irrigation and drainage structures, for building, for preparation of maps and graphs, for installation of water treatment and small refrigeration plants, for detailing of mechanical plans of dragline and dredge parts and for design of dredges and scow hulls; also correspondence,



preparation of agreements, contracts and specifications, and canal design. *TT 7.4: P 7.4: RC 7: D 5.6. TT 20.2: SP 5.1: P 15.1: RC 13: D 8.* Refers to J. C. Allison, R. S. Carberry, F. N. Cronholm, P. M. Entenman, D. W. Murphy, F. D. Pyle, H. M. Rouse, V. Wood.

**711 (6) SCHEIN, NATHAN**, Assoc. M., 422 City-County Bldg., Pittsburgh, Pa. (Elected March 2, 1915.) (Age 41. Born St. Petersburg, Russia.) 1906 C. E., Cornell Univ. June 1906 to Jan. 1907 Draftsman on structural work for buildings and small bridges, Toledo-Massillon Bridge Co. *TT 2.5: SP 2: P 0.5.* Jan. 1907 to Jan. 1909 Draftsman, Bureau of Filtration, Pittsburgh, Pa., drafting and design of additional filters, in charge of squad in design of hydraulic work on filters. *TT 2: P 2: RC 1: D 2.* Jan. 1909 to Jan. 1911 Draftsman, Bureau of Constr., Pittsburgh, design of sewers, streets, walls and bridges. *TT 2: P 2: RC 1: D 2.* Jan. 1911 to June 1917 Asst. Engr., Bureau of Eng., City of Pittsburgh, in charge of construction of streets, sewers, buildings, retaining walls, etc. *TT 6.5: P 6.5: RC 6.5: D 2.* June 1917 to Jan. 1918 Asst. Engr. at Camp Meade, in charge of construction of sewers, roads and buildings. *TT 0.5: P 0.5: RC 0.5.* Jan. 1918 to date with Bureau of Eng., Pittsburgh, 4 years as Div. Engr. of Design, in charge of design of streets, sewers, retaining walls and buildings; since Jan. 1922 Div. Engr. of Parks and Playgrounds, in charge of all work and design for construction in parks and playgrounds. *TT 7.3: P 7.3: RC 7.3: D 7.3. TT 20.8: SP 2: P 18.8: RC 16.3: D 13.3.* Refers to J. T. Barr, N. F. Brown, C. S. Davis, C. M. Reppert, J. M. T. Rice, N. S. Sprague, T. J. Wilkerson.

**712 (3) SCHODER, ERNEST WILLIAM**, Assoc. M., 220 Willard Way, Ithaca, N. Y. (Elected Junior Oct. 1, 1901, Assoc. M. Jan. 2, 1907.) (Age 45. Born Fidalgo Island, Wash.) Prof. Engr. and Land Surveyor, New York State. 1900 B. S., and B. S. in Mining, Univ. of Washington. 1903 Ph. D., Cornell Univ. July-Dec. 1900 Topog. Asst., U. S. Geological Survey. *TT 2.5: SP 2.5.* Feb. 1901 to June 1903 graduate student in Civ. Eng., Cornell Univ.; summer 1901 carried out experiments for New York City's water supply for Aqueduct Comms. and investigated, for private interests, merits of Pitot Tube for measuring water in power-plant forebays (all under direction of Gardner S. Williams); also conducted, with A. V. Saph, experiments on flow of water in pipes. 1902-1903 experiments on flow of water in pipes. During residence at Cornell assisted Gardner S. Williams in testing work on flow of water over dams for U. S. Geological Survey and private interests and frequently had charge of work for short time. 1901-1903 (about 1 month) conducted several topographical surveys preliminary to water-power developments near Ithaca, N. Y. *TT 2.4: P 2.4: RC 1.4: D 0.4.* July to Sept. 1903 and Oct. 1903 to April 1904 Engr. on construction, Van Natta Pumping Plant (over 3 months) and Cornell Univ. Filter Plant (6 months), Ithaca. *TT 0.8: P 0.8: RC 0.2: D 0.1.* May to July 1904 various topographical surveys, computations and estimates. *TT 0.2: P 0.2: RC 0.1: D 0.1.* July 1904 to date in charge Hydraulic Laboratory, Cornell Univ., being Engr. in charge (1904-1905), and Asst. Prof. (1905-1919) and Prof., of Experimental Hydraulics (1919-1925); since 1919 made many tests for federal, state, municipal, corporate and private interests on flow of water over dams, through pipes, Venturi meters and flumes, eel weirs and trash racks; power and performance of water wheels and pumps; measurements by current meter, Pitot tube, etc.; also professional services in litigation; between 1911 and 1916 also conducted with K. B. Turner extensive studies (experimental) on flow of water over weirs; Sept. 1917 to April 1919 Capt., Engrs., U. S. Army, Instructor, E. O. T. S., Camps Lee and Humphreys; Asst. Director of Training, Camp Humphreys; in Office of Chf. of Engrs., Washington, D. C. *TT 21: P 21: RC 20: D 6. TT 26.9: SP 2.5: P 24.4: RC 21.7: D 6.6.* Refers to F. A. Barnes, W. M. Black, A. H. Fuller, W. B. Gregory, R. E. Horton, G. S. Williams.

**713 (15) SCHWINN, FREDERICK SIEVERS**, Assoc. M., 905 Electric Bldg., Houston, Tex. (Elected Nov. 21, 1921.) (Age 36. Born Ft. Scott, Kans.) June 1907 to March 1908 Rodman, Chicago & Alton R. R. *TT 0.8: P 0.8.* Sept. 1908 to June 1913 with Southern Pacific Co. at Sacramento, Cal., until March 1911 as Rodman, Draftsman and Instrumentman, then Asst. Engr. in charge of field parties on track elevation, line changes, bridge construction and general construction and maintenance work, special trackwork designs. *TT 4.8: SP 2.6: P 2.2.* June 1913 to Feb. 1917 with Southern Pacific Lines at Lafayette, La., until April 1914 as Asst. Engr. in charge of field and office engineering on Louisiana Div. and designing and estimating for new work; then Asst. Div. Supt., same Div., in charge of maintenance and construction. *TT 3.8: P 3.8: RC 2.9.* March 1917 to Nov. 1922 with International & Great Northern Ry., until Oct. 1918 as Asst. Div. Supt., Gulf Div., Palestine, Tex., in charge of maintenance and construction; from Oct. 1918 to Feb. 1920 Engr. for Receiver, at Houston, Tex., handling corporate matters, investigations and settlements arising from Federal Control of Railroads; valuation work; reports; then Chf. Engr. of company, at

Houston, in charge of engineering, new construction, standardization and valuation work, design of yards, buildings, shops, etc. Nov. 1922 to date Chf. Engr., International Great Northern R. R. Co., Houston, in charge of engineering, maintenance, new construction and valuation, handling \$4 500 000 program on new work and maintenance per year; total for 1925, including line change, locomotive terminals, new yards, ballasting, new rail and maintenance of existing line, \$5 100 000. *TT 5.1: P 5.1: RC 5.1: D 5.1. TT 17.5: SP 3.4: P 14.1: RC 11: D 5.1.* Refers to R. J. Cummins, E. M. Durham, Jr., L. A. Guerlinger, E. A. Hadley, G. B. Herington, R. L. Holmes, J. M. Howe, H. F. Jonas, W. H. Kirkbride, C. S. Kirkpatrick, J. Lansdale, E. G. Maclay, J. C. McVea, J. C. Nagle, H. R. Safford, R. A. Thompson.

**714 (10) SHANER, HARRY LINDEN**, Assoc. M., City Hall, Winston-Salem, N. C. (Elected Dec. 7, 1904.) (Age 46. Born Lynchburg, Va.) 1899 Va. Mil. Inst. July 1899 to June 1902 Asst. City Engr., Lynchburg, Va., principally in responsible charge of engineering works, a little designing. *TT 5: SP 2: P 3: RC 3.* June 1902 to April 1918 City Engr. of Lynchburg; Executive Head of Depts. of Water, Sewer, Streets and Sanitation and Chf. Engr. for City, designing the engineering work; principal work covered design and superintendence of construction of water-works system for Lynchburg, including 9 000 000-gal. filtration plant and emergency pumping station (total cost over \$1 000 000), several concrete bridges and structures and numerous street paving improvements, sanitary sewers and drainage works (total cost of engineering work about \$5 000 000). *TT 16: P 16: RC 8: D 8.* April to Sept. 1918 Chf. Engr. and Gen. Supt., John T. McKinney Constr. Co., Lynchburg, in charge of Company's activities at Balloon School, Camp Eustis, Va., Company having a contract with Government to lay concrete roads. *TT 0.4: P 0.4: RC 0.4.* Sept. 1918 to Aug. 1919 Capt., Constr. Div., U. S. Army, until Jan. 1919 as Officer in charge of water, sewer and roads, Camp Green, Charlotte, N. C., then (about 3 months) at Camp Wadsworth, Spartanburg, S. C., on special assignment, sewage disposal, and after March 1919 at Camp Gordon, Atlanta, Ga., as Officer in charge of water, sewer and roads. *TT 0.9: P 0.9: RC 0.9.* Aug. to Dec. 1919 Utilities Officer, U. S. Army, at Camp Gordon. *TT 0.3: P 0.3: RC 0.2: D 0.1.* Dec. 1919 to date Commr. of Public Works, Winston-Salem, N. C., being Executive Head and Chf. Engr. of Depts. of Water, Sewer, Streets and Sanitation; principal works designed and executed include 12 000 000-gal. filtration plant and water-works extension (cost \$775 000), 15 000 000-gal. sewage disposal plant (cost \$475 000), 112-ton incinerator plant (cost \$125 000), street improvements, with other auxiliary work, such as grading, curbing, drains, water and sewer extension (cost over \$5 000 000), numerous concrete bridges (principally girder, 2 and 3 span, cost over \$500 000) and various other engineering structures. *TT 5.3: P 5.3: RC 2.6: D 2.7. TT 27.9: SP 2: P 25.9: RC 15.1: D 10.7.* Refers to J. H. Fuertes, G. W. Fuller, G. A. Johnson, J. L. Ludlow, S. H. Meem, J. D. Spinks, W. J. Watson.

**715 (10) SLACK, SEARCY BRADFIELD**, Assoc. M., State Highway Dept., East Point, Ga. (Elected Nov. 28, 1916.) (Age 34. Born LaGrange, Ga.) 1911 B. S. in C. E., Univ. of Ga. 1912 M. A., Harvard Univ. 1912 to 1913 City Engr., LaGrange, Ga., sidewalk, paving and sewer work. *TT 3.2: SP 2: P 1.2: RC 1.2: D 1.2.* 1913 to 1917 Field Engr., Good Roads Dept., Univ. of Georgia; Adjunct Prof. of Civ. Eng.; field research work on soil roads and demonstration work on bridges, etc. *TT 3.6: P 3.6: RC 3.6: D 3.6.* 1917 to 1918 Engr. for Nixon-Smith Constr. Co.; member of firm on road, small bridges and silo construction work. *TT 1: P 1: RC 1: D 1.* 1918 to 1920 member of firm, Garrett & Slack, Civ. Engrs., highway and bridge work; 8 months with U. S. Army. *TT 2.5: P 2.5: RC 2.5: D 2.5.* 1920 to date Bridge Engr., State Highway Dept. of Georgia, in responsible charge of design and construction. *TT 4.8: P 4.8: RC 4.8: D 4.8. TT 15.1: SP 2: P 13.1: RC 13.1: D 13.1.* Refers to J. M. Garrett, W. A. Hansell, J. H. Johnston, R. G. Lose, F. H. McDonald, C. A. Smith, C. M. Wood.

**716 (5) SMITH, BENJAMIN LECOMPTE**, Assoc. M., 18 East Lexington St., Baltimore, Md. (Elected Sept. 9, 1919.) (Age 31. Born Baltimore, Md.) 1914 C. E., Cornell Univ. July to Sept. 1913 Chairman, Rodman and Instrumentman, Baltimore City Water Dept. *TT 2: SP 2.* July to Dec. 1914 Draftsman, Baltimore City Topographical Survey. *TT 0.4: P 0.4.* Dec. 1914 to April 1916 with Greiner & Whitman, Cons. Engrs., Baltimore, as Asst. to Res. Engr. on Rockville (Md.) sewers and disposal plant; designed (under supervision of E. B. Whitman) sewers and sewage disposal for Arlington, Md. (\$200 000); in charge of design of sewers and sewage disposal for Govans (\$100 000) and Crisfield (\$125 000), Md., and Little Falls Brook Drainage Area, Montgomery County, Md. (\$100 000); design of water system and reservoir for estate of Walter B. Brooks, Jr., Green Spring Valley, Md. *TT 1.3: P 1.3: RC 0.9: D 1.* April 1916 to Nov. 1917 with Norton, Bird & Whitman, Engrs., Balti-

more, in charge of design of sewers and sewage disposal for Towson, Md. (\$90 000); Bethlehem Steel Co., Sparrows Point, Md. (\$100 000); Development Aid Corporation, Baltimore; Pine Camp Tuberculosis Sanitarium, Richmond, Va.; Georgetown Univ. Prep. School; Franklin High School, Green Spring Valley Hunt Club, Baltimore; designed heightening earth dam for Crimora (Va.) Manganese Corporation, and Navy Ordnance Bldg. for Poole Eng. Co. at Woodberry, Md.; railroad spur for same Company, also sewers, disposal plant and pumping station for housing development at St. Helena, Md. (\$90 000). *TT 1.6: P 1.6: RC 1.6: D 1.6.* Nov. 1917 to April 1918 with American International Shipbuilding Corporation, Hog Island, Pa.; 1 week as Asst. to Utility Engr., then Utility Engr. in charge of design of utilities at Hog Island Shipyard, including 8 miles of sanitary sewers, two sewage pumping stations, Imhoff tanks, sludge beds, chlorinating plant; 9 miles of domestic water mains, water pumping station, rapid sand filter plant (2 000 000 gal. per day); 7 miles high-pressure fire-protection mains with two pumping stations (capacity 15 000 gal. per minute) (total cost \$1 100 000). *TT 0.3: P 0.3: RC 0.3: D 0.3.* April 1918 to date with Norton, Bird & Whitman, and (since March 1925) member of firm, Whitman, Requaardt & Smith, Engrs., Baltimore, design of sewerage systems for Towson (\$90 000) and Abendeen (\$60 000), Md., and U. S. Housing Corporation at Aberdeen, Winchester, Va., Pinehurst and Belmar Developments, Baltimore; Ft. Thomas, Ky. (\$250 000), design of water reservoirs for Brunswick, Md. (\$45 000), Martinsburg, W. Va. (\$20 000), Winchester, Va. (\$40 000), and water supplies for Brunswick (\$80 000), Williamsport, Md. (\$50 000), Aberdeen Housing Development; supervised construction of sanitary sewers at Aberdeen and alterations to 63d St. Music Hall, New York City; designed street plan for Winchester, structural steel framing for Beacon Theatre, Newark, N. J., sanitary and storm water sewers for Macon, Ga. (\$225 000), concrete swimming pool (200 by 300 ft.) for Carlins Park, Baltimore, concrete and steel deck girder bridge (cost \$45 000) at Edmondson Ave. for City of Baltimore and plate girder railroad bridge at Rogers Ave. (cost \$63 000), and reinforced concrete foundation mat for substation of United Rys., Baltimore; in charge of valuation of Union Gas & Elec. Co., Cincinnati, Ohio, and other electric properties, sewer systems, Mt. Washington Sewerage Co., Baltimore, etc. (total valuations \$68 000 000); rate analyses for Union Gas & Elec. Co., Cincinnati, and Dayton (Ohio) Light & Power Co. *TT 7.2: P 7.2: RC 7.2: D 7.2.* *TT 12.8: SP 2: P 10.8: RC 10: D 10.1.* Refers to F. A. Barnes, B. L. Crozier, F. K. Duncan, A. H. Hartman, R. F. Proctor, S. Purcell, E. B. Whitman.

**717 (10) SOUTHGATE, JOHN McKNIGHT**, Assoc. M., Care, M. & O. R. R., Box 588, Meridian, Miss. (Elected July 11, 1921.) (Age 43. Born Rolla, Mo.) 1899 to Jan. 1902 student, Missouri School of Mines, and Sept. 1903 to Jan. 1904 took special work there, finishing about 3½ years of C. E. course. Jan. to May 1902 Rodman, Ft. Smith & Western Ry. *TT 1.3: SP 1.3.* May to Nov. 1902 Levelman and Transitman, and Asst. Engr. on construction, St. Louis, Iron Mountain & Southern R. R. *TT 0.5: SP 0.5.* Nov. 1902 to June 1903 Draftsman and Asst. Engr. on location surveys in Arkansas and Louisiana for St. Louis & San Francisco R. R. *TT 0.5: P 0.5: RC 0.1.* Jan. 1904 to March 1906 Draftsman and Asst. Engr., St. L. & S. F. R. R. *TT 2.2: P 2.2: D 0.5.* March 1906 to March 1907 Draftsman and Asst. Engr., Missouri Pacific Ry., principally designing yard layouts and special work. *TT 1: P 1: D 0.5.* March to May 1907 Bridge Engr., St. Louis, Monte Sano & Southern Ry. *TT 0.2: P 0.2: RC 0.2: D 0.2.* May 1907 to June 1910 Asst. Engr., Sewer Dept., St. Louis, in charge of Rena Des Peres Sewer surveys and construction of sewers. *TT 3.1: P 3.1: RC 1.6: D 1.* June 1910 to Aug. 1911 Engr. of Constr., same Dept. *TT 1.2: P 1.2: RC 1.2: D 0.5.* Aug. 1911 to Sept. 1913 in sewer contracting business, St. Louis. *TT 2.1: P 2.1: RC 2.1.* Sept. 1913 to March 1923 City Engr., Rolla, Mo.; County Surveyor, Phelps County, Mo.; Cons. Highway Engr., Texas, Marion, Dent and Pulaski Counties, Mo.; Res. Engr., Missouri State Highway Dept., locating and designing roads and bridges; private engineering practice at Rolla. *TT 9.5: P 9.5: RC 9.5: D 9.5.* March 1923 to March 1924 Civ. Engr. for City of St. Louis, in charge of surveys for \$11 000 000 Rena des Peres Sewer. *TT 1: P 1: RC 1.* March to Aug. 1924 Supt. for Jas. R. Scott, Contr. *TT 0.4: SP 0.4.* Aug. 1924 to Jan. 1925 Engr. on dredging at piers for Mobile & Ohio R. R. at Mobile. *TT 0.3: P 0.3: RC 0.3.* Jan. 1925 to date Div. Engr. M. of W., Mobile and Montgomery Div., M. & O. R. R. *TT 0.5: P 0.5: RC 0.5: D 0.5.* *TT 23.7: SP 4.3: P 19.4: RC 16.4: D 12.7.* Refers to H. E. Frech, E. G. Harris, W. W. Horner, F. D. Hughes, C. E. Johnston, F. Kersting, E. S. McCandless.

**718 (6) STEVENSON, JOHN DICKSON**, Assoc. M., 1231 Monterey St., Pittsburgh, Pa. (Elected July 2, 1913.) (Age 44. Born Allegheny, Pa.) 1906 C. E., Rens. Pol. Inst. June to Sept. 1903 Inspector of concrete in car barn foundations, Pittsburgh Rys. Co. Sept. 1905

to Feb. 1906 Inspector, Pennsylvania Rys. Co., Lines West, masonry, heavy concrete work, in charge installation conduit line, Bridge No. 1 to Outer Depot. *TT 2.4: SP 2: P 0.4: RC 0.2.* Sept. 1906 to April 1909 with Bureau of Filtration, City of Pittsburgh, until Jan. 1907 as Inspector, cement testing and sand and gravel testing laboratories; then Draftsman, vaulted roofs, etc., design of reinforced concrete, experiments with water-conveyed sand-handling machinery; designed, installed and had charge of operation of piezometers for determining loss of head in filter beds. *TT 2.5: P 2.5: RC 1: D 2.* April 1909 to April 1912 with Bureau of Constr., City of Pittsburgh, until June 1909 as Draftsman, Div. of Design, on preliminary investigations on sewage disposal and design of reinforced concrete retaining walls; then Structural Draftsman, Div. of Bridges, on design of reinforced concrete arch bridges; last 2½ years Structural Draftsman, Div. of Design, in charge of design and plans for large street and sewer improvements and of sewage-disposal investigations. *TT 3: P 3: RC 2.5: D 3.* April 1912 to June 1917 Asst. Engr., Bureau of Eng., Div. of Bridges, City of Pittsburgh, in charge of design and plans and specifications for concrete bridges, and of construction of approaches (arches), Manchester Bridge. *TT 5.2: P 5.2: RC 5.2: D 3.5.* June to Nov. 1917 Div. Engr., Headquarters Div., U. S. Govt., at Camp Meade, in charge of sanitation, temporary water supply, swamp drainage, topographical (planetable), swamp and property surveys, drafting room and clerical force, quarters and mess, employment, location and construction of remount depot, camp sites, garbage and refuse disposal. *TT 0.4: P 0.4: RC 0.4: D 0.1.* Nov. 1917 to date with Bureau of Eng., Pittsburgh, 4 months as Asst. Engr., in charge of special investigations, etc.; then in Div. of Bridges, 1½ years as Div. Engr. and 5½ years Asst. Chf. Engr., in charge of design, construction and maintenance of bridges, also of architectural force and maintenance of iron fences; during latter period also installation and maintenance of street signs, installation of monument boxes. *TT 7.3: P 7.3: RC 7.3: D 3.8.* *TT 20.8: SP 2: P 18.8: RC 16.6: D 12.4.* Refers to J. T. Barr, N. F. Brown, C. S. Davis, A. B. McGrew, L. J. Riegler, C. M. Reppert, J. M. T. Rice, N. S. Sprague, W. Whited, T. J. Wilkerson.

**719 (1) SUDLER, EMORY**, Assoc. M., 2520 Grand Central Terminal, New York City. (Elected Sept. 5, 1911.) (Age 55. Born in Anne Arundel County, Md.) 1890 to 1900 on townsite development, water supply, sewers, roads and pavements (4 years), railroad location and construction (2 years), cable railway and electric subway construction (2 years) and harbor and municipal work (3 years). *TT 11: P 11: RC 3: D 7.* 1901 to 1914 maintenance, development and extension of large municipal water supply, investigations and report on sources of supply, and supervision of design and construction, Baltimore City Water Dept. *TT 14: P 14: RC 8: D 12.* 1915 to 1918 Engr. representing U. S. Director of Storage, Norfolk Army Supply Base and Terminal, studies for ocean terminals, design and construction of wharves, piers and sea-walls, supervision of dredging operations. *TT 4: P 4: RC 1.5: D 2.* 1919 to date Designing Engr. and Chf. Engr., Ambursen Constr. Co., Inc. *TT 6.5: P 6.5: RC 3.5: D 6.5.* *TT 35.5: P 35.5: RC 16: D 27.5.* Refers to N. S. Hill, Jr., O. F. Lackey, J. Meigs, A. M. Quick, S. W. Stewart, W. F. Strouse, E. B. Whitman.

**720 (1) TOTTI y TORRES, ETIENNE**, Assoc. M., Box 634, San Juan, Porto Rico. (Elected Jan. 14, 1924.) (Age 38. Born Yauco, Porto Rico.) 1911 B. S. in Civ. Eng., Worcester Pol. Inst. 1911 to 1912 Engr. in charge of Pagan Div., South Porto Rico Sugar Co., Ensenada, Porto Rico; designed and built Pagan Loop R. R. spur (8 km.). *TT 3.4: SP 2.3: P 1.1: RC 0.5: D 0.2.* 1912 to 1913 Inspector of Bldgs., Dept. of Health, Govt. of Porto Rico (bubonic plague); Prof. of San. Eng. *TT 1.1: P 1.1: RC 1.1.* 1913 to 1914 Prof. of Drainage and Plumbing, Boys' Charity School, Govt. of Porto Rico. *TT 0.8: P 0.8: RC 0.8.* 1914 to 1916 member of firm, Totti & Fossos, Engrs. and Contrs., San Juan, Porto Rico, completed Aguadilla Water Works, San Sebastian and Bayamon Public Markets, Camuy Public School Bldg., Rio Hondo Bridge at Bayamon, Saldana Warehouse, Federal Govt. Road at Miraflores and over 40 other contracts. *TT 2.2: P 2.2: RC 2.2.* 1916 to 1920 Asst. San. Engr., and later Chf. San. Engr., Dept. of Health, Govt. of Porto Rico; designed and built insular sanatorium for tuberculosis at Rio Piedros, several model sanitary plans. *TT 3.9: P 3.9: RC 2: D 0.9.* 1920 to date Asst. Engr., Chf. Engr. and (Oct. and Nov. 1923) Acting Gen. Mgr., American R. R. Co. of Porto Rico; designed and built La Mah Bridge spandrel arch; designed Manati Vega Baja, Tollevs and Mayaguez railroad depots; designed several bridges, culverts, etc., several kilometers of railroad spurs, sidings, yards, etc. *TT 4.6: P 4.6: RC 4.2.* *TT 16: SP 2.3: P 13.7: RC 10.8: D 1.1.* Refers to J. A. Canals, C. L. Carpenter, A. W. French, A. Hazen, E. E. Lochridge, A. Rodriguez, F. H. Todd.



## FROM THE GRADE OF AFFILIATE

**721 (11) CAMPBELL, CHARLES INGALLS**, Affiliate, Box 851, Casper, Wyo. (Elected May 19, 1924.) (Age 36. Born Hastings, Nebr.) 1912 to 1920 (except May 1917 to June 1919 1st Lieut., Q. M. Constr., U. S. Army, built rifle range, Camp Dodge, Iowa) Timekeeper, Field Office Mgr. and Supt., Kilpatrick Bros. and Collins, R. R. Contrs. and Associated Contrs. TT 8: SP 3: P 5: RC 5. 1920 to date member of firm, and Vice-Pres., Sprague & Nisely Constr. Co., Gen. Contrs.; had full charge of all work, consisting of dredging for Standard Oil Co. of Indiana at Casper, railroad construction for C., B. & Q. R. R., also putting in water lines, sewers, paving and sidewalks on 40-acre subdivision for Standard Oil Co. at Casper; since April 1924 had charge of building 20 miles of new railroad for C., B. & Q. in Wyoming; 8 miles of highway for state of Wyoming and an 8-mile beet spur for Colo. & Southern Ry. near Wheatland, Wyo.; estimated the cost on these, looked over the work, made the bids and had charge of the construction. TT 5: P 5: RC 5. TT 13: SP 3: P 10: RC 10. Refers to C. H. Bowman, J. B. Cleary, F. T. Darrow, R. M. Green, G. W. Harris, J. C. Lindsay, N. P. Nelson.

**722 (1) WINELL, VERN ELWOOD**, Affiliate, Care, Thompson-Starrett Co., 250 Park Ave., New York City. (Elected Nov. 21, 1921.) (Age 37. Born La Crosse, Wis.) Took course in Civ. Eng., Structural Eng., International Correspondence Schools, Scranton, Pa. Jan. to July 1910 Supt., Minneapolis Brewery Warehouse (3 stories and basement, reinforced concrete), Minneapolis Brewing Co. TT 0.5: P 0.5: RC 0.5. July 1910 to Jan. 1911 Supt., Sioux Falls, S. Dak., Passenger Station, Chicago, St. Paul, Minneapolis & Omaha Ry. (about \$100 000). TT 0.5: P 0.5: RC 0.5. Jan. to July 1911 Gen. Supt. with A. S. Alschuler, Archt., Chicago, Ill., on factory buildings (all types of construction, \$50 000 to \$500 000). TT 0.5: P 0.5: RC 0.5. July 1911 to March 1912 Supt. with H. L. Ottenheimer, Archt., Chicago, on slow-burning type warehouse (7 stories, 100 by 100, caisson foundation, open-well type). TT 0.7: P 0.7: RC 0.7. March 1913 to March 1915 Supt. for John Graham, Archt., Seattle, Wash., in charge of Ford Motor buildings at Chicago (\$1 000 000), Columbus (\$500 000) and Pittsburgh (\$1 000 000). TT 2: P 2: RC 2. March 1915 to Nov. 1916 with F. W. Mark Constr. Co., Cleveland, Ohio, as Estimator (6 months) and Supt. of Cuyahoga Works, American Steel & Wire, and Baldwin Locomotive Works, Philadelphia (\$1 000 000). TT 1.5: P 1.5: RC 1.5. June 1917 to June 1918 with Irwin & Leighton Co., Philadelphia, as Supt., Camp Dix, and Linden Worsted Mills, Camden, N. J. TT 1: P 1: RC 1. June 1918 to June 1919 Gen. Supt., McArthur Bros., New York City, on Chestership Hotel, Chester, Pa. (\$1 000 000). TT 1: P 1: RC 1. Sept. 1919 to date with Thompson-Starrett Co., New York City, as Supt., Gen. Supt. and Asst. to Vice-Pres., Fisher Body Cleveland Plant (\$3 500 000, covers 15 acres), O'Shaughnessy Dam, Columbus, Ohio (\$2 000 000), Buffalo Filter Plant (\$2 225 000), active in estimating, laying out and designing construction plant and supervising other work in emergency. TT 5.7: P 5.7: RC 5.7. TT 13.5: P 13.5: RC 13.5. Refers to J. L. Ames, G. C. Andrews, A. Fischer, Jr., N. M. Loney, A. G. Moulton, C. L. Post, A. P. Skaer.

## FROM THE GRADE OF JUNIOR

**723 (15) COLEMAN, JOSEPH PICKENS**, Jun., 719 Staley Bldg., Wichita Falls, Tex. (Elected Nov. 9, 1920.) (Age 27. Born Greenville, Tex.) 1918 B. S. in Civ. Eng., Rice Inst. May to Sept. 1916 Transitman, McMahon Constr. Co., mapping and land and mining surveying. May to Sept. 1917 with Gulf Coast Lines and James Stewart Co. as Transitman on reconnaissance and railway location, and Inspector on sewer construction, Camp Pike, Ark. TT 2: SP 2. March 1918 to Jan. 1919 with U. S. Engineer Officers' Reserve Corps and National Army Camps Lee and Humphreys, Va., on staff of Director of Field Training, Camp Humphreys, instructing army engineering units; finally 1st Lieut., Engrs., U. S. Army. TT 0.8: SP 0.4: P 0.4: RC 0.4. Jan. to June 1919 Transitman, Pierce Oil Corporation, surveying. TT 0.5: SP 0.5. June 1919 to June 1920 member of firm, Morrison & Coleman, Petroleum Engr. and Geologist; reports, maps, surveys, etc. TT 1: P 1: RC 1. June 1920 to date Contr., member of Plains Paving Co., contracting, financing and directing construction of various street paving and road construction projects (approx. \$4 000 000). TT 5: P 5: RC 5. TT 9.8: SP 2.9: P 6.4: RC 6.4. Refers to G. R. Burtner, A. D. Duck, C. S. Kirkpatrick, A. M. McPherson, J. Montgomery, W. G. Morrison, J. E. Ward.

**724 (1) CRITZAS, EVANGELOS JOHN**, Jun., 92 Hamilton Ave., Yonkers, N. Y. (Elected Sept. 9, 1919.) (Age 30. Born Smyrna, Asia Minor.) 1918 C. E., Columbia Univ. Oct. 1918 to Sept. 1919 Draftsman, Wallace & Tiernan Co., Inc., Mfrs. and San. Engrs., Newark, N. J.

drawings of plant layouts for installations of chlorine control apparatus and occasional inspection of same. *TT 3: SP 3.* Oct. 1918 to Sept. 1920 (evenings) Instructor in Materials Testing Laboratory, Cooper Union Inst. for Advancement of Science and Art. Oct. 1919 to June 1920 Asst. Instructor in Mech. Drawing, Columbia Univ. *TT 0.8: SP 0.8.* July 1920 to April 1921 member of firm, Levant Exporting Co., Engrs. and Exporters, New York City, preparations of technical reports and specifications for factory layouts, buying of goods and travelling in Greece and Asia Minor to promote interests of firm. *TT 0.8: P 0.8: RC 0.8.* May to Oct. 1921 and Nov. 1924 to Jan. 1925 Engr. and later Chf. Engr., Société Anonyme d'Etudes et d'Entreprises, Engrs. and Gen. Contrs., Athens, Greece, estimates and design of reinforced concrete buildings, field supervision of reinforced concrete and general building work; as Chf. Engr. had general supervision of building construction, submitting of bids, buying of building materials and letting out contracts to subcontractors. *TT 3.8: SP 0.2: P 3.6: RC 2.6: D 1.5.* March 1925 to date Designer and Estimator, Kalman Steel Co., New York City, designing, estimating, detailing of reinforced concrete structures. *TT 0.2: P 0.2: D 0.2.* *TT 8.6: SP 4: P 4.6: RC 3.4: D 1.7.* Refers to A. H. Beyer, H. R. Codwise, J. K. Finch, W. J. Kupec, S. O. Miller.

**725 (4) DUNCAN, MALCOLM**, Jun., 1031 Penn St., Reading, Pa. (Elected Nov. 27, 1917.) (Age 31. Born Philadelphia, Pa.) 1915 B. S. in C. E., Univ. of Pa. July 1915 to May 1916 Testing Engr., Public Service Ry. Co., Newark, N. J., on reinforced concrete materials; also drafting and estimating on track layouts. *TT 2.8: SP 2: P 0.8.* May 1916 to Oct. 1917 Asst. Engr., William H. Dechant & Sons, Reading, Pa., drafting and design on buildings, dams, filtration plants and pumping stations. *TT 1.5: P 1.5: D 0.8.* Oct. 1917 to July 1918 Instructor in descriptive geometry, drawing, masonry and reinforced concrete, Civ. Eng. Dept., Univ. of Pennsylvania. *TT 0.8: P 0.8.* July 1918 to April 1923 Asst. Engr., William H. Dechant & Sons, on design and supervision of construction of bridges, buildings, dams, filtration plants, pumping stations, sewers and sewage-disposal works, valuations. *TT 4.8: P 4.8: RC 3: D 4.8.* April 1923 to date with Metropolitan Edison Co., Reading, until June 1924 as Structural Engr. on design of steel and concrete structures for steam generating stations, transmission towers and office buildings; since then Designing Engr. in charge of all designs and layouts for buildings and equipment in connection with electric generating stations. *TT 1.8: P 1.8: RC 0.9: D 1.8.* *TT 11.7: SP 2: P 9.7: RC 3.9: D 7.4.* Refers to H. C. Berry, F. H. Dechant, H. H. George, E. T. Grandfienard, C. J. Hartenstine, W. S. Pardoe, C. L. Warwick, S. H. Widdicombe.

**726 (10) DYER, HARRY BUTTORFF**, Jun., Care, Nashville Bridge Co., Nashville, Tenn. (Elected Nov. 21, 1921.) (Age 25. Born Nashville, Tenn.) 1921 C. E., Lehigh Univ. June to Sept. 1916 Machinist, June to Sept. 1917 Draftsman, June to Sept. 1918 Shop Workman in assembling shop, bolting up and assembling structural and bridge work, June to Sept. 1919 Layer-out, laying-off steel for structural and bridge work, and June to Sept. 1920 Draftsman, structural and bridge detailing, all for Nashville Bridge Co. *TT 2.5.* June 1921 to date with same Company as follows: June 1921 to June 1922 Draftsman on structural and bridge detailing and checking; June 1922 to June 1923 Estimator, chiefly on costs of structural steelwork and making designs for buildings and bridges; June 1923 to Jan. 1924 Contr. Engr., principally designing and estimating costs of steel structures and marine equipment, such as steel barges, derrick boats, dredges, steamboat hulls and Diesel powered towboats; since Jan. 1924 Contr. Engr. in charge of Marine Dept. and responsible for all designs, estimates, sales and construction of all marine equipment built by Company, including steel barges, pontoons, derrick-boats, dredges, steamboat hulls and Diesel powered towboats, both sternwheel and screw-propelled; completed designs for and at present supervising construction of 400-h. p. split sternwheel full Diesel towboat, a 480-h. p. twin screw tunnel-stern full Diesel towboat, two 240-h. p. twin screw full Diesel towboats; at present in charge of and responsible for work under contract amounting to about \$500 000. *TT 4: RC 1.5: D 2.5.* *TT 6.5: RC 1.5: D 2.5.* Refers to L. C. Anderson, C. N. Bass, A. J. Dyer, R. J. Fogg, F. E. Freeland, H. McDonald, D. H. Wood.

**727 (14) GREENE, BARCLAY ADAMS**, Jun., 114 West 10th St., Kansas City, Mo. (Elected Nov. 21, 1921.) (Age 30. Born Washington, D. C.) May 1912 to Oct. 1914 with James Lee Darnell, 8 months as Timekeeper and Material Clerk, 1 year Purchasing Agt. and Cost Accountant and 9 months Cost Accountant for Asst. Supt., on viaduct construction, including cement gun encasement. *TT 2.5: SP 1.7: P 0.8: RC 0.8.* Oct. 1914 to Jan. 1916 miscellaneous work such as Cost Accountant, Purchasing Agt., Asst. to Supt., Instrumentman, etc., on reinforced concrete building construction and viaducts. *TT 1.2: SP 0.5: P 0.7: RC 0.5.* Jan. to May 1916 Asst. to Gen. Supt., construction of reinforced concrete building, Research

Hospital, Kansas City, Mo. *TT 0.3: P 0.3.* May 1916 to March 1917 with Kansas City (Mo.) Stock Yards Co., 4 months as Gen. Reinforcing Steel Foreman, building construction; 3 months Asst. Purchasing Agt., Bldg. Constr. and Maintenance Dept.; 3 months Chf. Clerk, Eng. Dept. *TT 0.8: SP 0.2: P 0.6: RC 0.6.* March to June 1917 Sales Engr., Cement Gun Co., Inc., Allentown, Pa. *TT 0.2: P 0.2.* June 1917 to Jan. 1924 with Pratt-Thompson Constr. Co., Kansas City, Mo., as Mgr. in responsible charge, Cement Gun Dept., contracting, building, operating and designing cement gun construction of various types, entire charge of finances. *TT 6.6: P 6.6: RC 4.6: D 2.* Jan. 1924 to date Pres., Gunite Concrete & Constr. Co., Kansas City, Mo., principally cement gun construction, operating 12 complete cement gun outfits, building of plain and reinforced concrete construction, especially river bridges and railroad viaducts. *TT 1.5: P 1.5: RC 1.5: D 1.5.* *TT 13.2: SP 2.4: P 10.8: RC 8: D 3.5.* Refers to O. P. Allee, P. L. Brockway, B. C. Collier, J. L. Darnell, A. C. Everham, C. S. Foreman, J. V. Hanna.

**728 (3) GUEST, JOHN LAURENS**, Jun., Isle Maligne, Que., Canada. (Elected June 19, 1922.) (Age 26. Born Birmingham, Ala.) 1918 B. S., Va. Mil. Inst. 1921 C. E., Cornell Univ. June to Aug. 1918 Draftsman, Virginia State Highway Comm., on plans and estimates. *TT 2.2: SP 2.2.* Sept. to Dec. 1918 2d Lieut., Field Artillery, U. S. Army. Dec. 1918 to June 1919 Commandant of Cadets, John Marshall High School, Richmond, Va. June 1919 to Sept. 1920 Instrumentman, Virginia State Highway Comm., staking out work and estimating quantities. *TT 1.2: SP 1.2.* Aug. to Dec. 1921 Draftsman, Dept. of Public Works, Richmond, computing extensive city survey, layout and design of various sewers, culverts, small bridges, etc. *TT 0.3: SP 0.3.* Dec. 1921 to Dec. 1923 Designer Southern Power Co., Charlotte, N. C., on structural steel and reinforced concrete also mechanical equipment for 80 000-h.p. Mountain Island hydro-electric plant and 60 000-h.p. Dearborn power house and Mount Holly and Eno steam stations. *TT 2: P 2: D 2.* Dec. 1923 to date Draftsman, Quebec Development Co., Ltd., Isle Maligne, Que., Canada, in charge of drafting room and preparation of plans for construction work for 540 000-h.p. hydro-electric plant, also layout of large part of construction plant, design of construction equipment, and general engineering work in office. *TT 1.5: P 1.5: RC 1.5: D 1.5.* *TT 7.2: SP 3.7: P 3.5: RC 1.5: D 3.5.* Refers to C. B. Brown, F. H. Cothran, A. C. Lee, W. S. Lee, C. E. Legris, D. F. Noyes, C. M. Scudder.

**729 (8) HARKNESS, JOHN CUSTY**, Jun., 7033 Chappel Ave., Chicago, Ill. (Elected Aug. 28, 1922.) (Age 27. Born Weston, W. Va.) 1921 B. S. in C. E., Carnegie Inst. Tech. Summers 1918 and 1919 with Surveying Corps, Homestead Steel Co., during summer of 1919 as Instrumentman. Summer 1920 in Materials Testing Laboratory, Carnegie Inst. of Technology. *TT 2.* June to Oct. 1921 Asst. Supt. on erection school building, The Charles C. Kinne Co., Gen. Contrs., Cleveland, Ohio. *TT 0.4.* Oct. 1921 to date with Consolidated Expanded Metal Cos., Braddock, Pa., until Oct. 1923 as Sales Engr., then Asst. Sales Mgr., special, design, erecting and marketing safe deposit vault protection, and since March 1924 in Chicago office, marketing and design of reinforcement in concrete, also design, erecting and marketing safe deposit vault protection. *TT 3.7: RC 1.7.* *TT 6.2: RC 1.7.* Refers to F. J. Evans, C. C. Kinne, F. M. McCullough, A. V. Spinoso, C. B. Stanton.

**730 (11) HEYWOOD, GENE BRYANT**, Jun., 963 Galena Ave., Pasadena, Cal. (Elected June 16, 1919.) (Age 28. Born Hanford, Cal.) 1918 B. S. in C. E., Throop Coll. of Tech. (now Cal. Inst. Tech.) Summer 1915 Chairman, City Engr.'s Office, Pasadena, Cal.; Rodman, California State Highway Comm. Summer 1916 Gen. Helper, Frank Graves & Son, on reinforced concrete building construction. Summer 1917 engineering inspection trip to Alaska; Asst. to Geologist, M. E. W. Gold Min. Co., Alaska, on hydraulic mining problems. April to June 1918 Erector, Bethlehem Shipbuilding Corporation, steel fabrication and erection. *TT 2.2: SP 2.2.* June 1918 to Feb. 1924 with U. S. Army, until Oct. 1918 as private with Engr. Regt., Washington, D. C., and Officers' Training Camp, Camp Humphreys, Va.; Oct. 1918 to Jan. 1919 2d Lieut., Engrs., Camp Humphreys, and after Feb. 1919 2d Lieut., Engr. Officers' Reserve Corps. *TT 0.5: SP 0.3: P 0.2.* Feb. 1919 to date with Southern California Edison Co. as follows: Feb. to June 1919 Chairman, Kern River No. 3 Project; June 1919 to Jan. 1920 Chf. of Party, surveys for power house, pipe-lines, tunnels, etc.; Jan. 1920 to June 1921 Asst. Engr. in charge of field engineering, inspection and field drafting on lower end of project, comprising two tunnels, siphon, pressure flume, forebay, penstocks and power house; June 1921 to Nov. 1922 Senior Designer, general office, on special investigations and reports, hydrographic and power studies, preliminary layout of hydro projects; Nov. 1922 to March 1923 on Big Creek No. 3 Project, in charge of inspection and experi-

mental concrete work in connection with Dam No. 6; since March 1923 in general office, as Senior Designer, experimental studies on concrete, power studies, dam design, and special reports. *TT 6.1: SP 0.3: P 5.8: RC 3.4: D 1. TT 8.8: SP 2.8: P 6: RC 3.4: D 1.* Refers to W. A. Brackenridge, H. W. Dennis, R. R. Martel, F. A. Noetzli, A. B. Pierce, F. Thomas, O. A. Wait.

**731 (14) HOELSCHER, LEONARD WILLIAM, Jun.,** 3431 Crittenden St., St. Louis, Mo. (Elected Aug. 28, 1922.) (Age 25. Born Wilton, Mo.) Feb. 1918 to date (except Oct. to Dec. 1918 with U. S. Army) with C. E. Smith & Co., Cons. Engrs., as follows: Feb. to Oct. 1918 Tracer, Rodman and Levelman; Dec. 1918 to Sept. 1919 Draftsman and Rodman; Sept. 1919 to Feb. 1920 and July to Sept. 1920 Instrumentman; Feb. to July 1920 and Sept. 1920 to Feb. 1921 Draftsman; Feb. to Aug. 1921 on surveys and plans, streets, roads and sewers; Aug. to Dec. 1921 office work; Dec. 1921 to Sept. 1922 plans for concrete structure and subdivision work; Sept. to Nov. 1922 surveys and plans, road; Nov. 1922 to July 1923 office and field work; structural design of warehouse and filter plant; July 1923 to March 1924 Field Engr. and Inspector, water system; March to April 1924 plans and specifications, water and streets; April to Aug. 1924 miscellaneous structural and street plans; since Aug. 1924 on miscellaneous office work. *TT 7.2: SP 4.8: P 2.4: RC 2: D 1.5.* Refers to W. S. Dawley, M. H. Doyné, W. D. Hudson, J. B. Neely, C. E. Smith, C. E. Stiver.

**732 (1) MEYER, EDWARD DYCKER, Jun.,** Care, Chilli Exploration Co., Chuquicamata, Chilli. (Elected May 19, 1924.) (Age 30. Born Christiania, Norway.) 1918 C. E., Norges Tekniske Høiskole (Polytechnical Coll. of Norway). Sept. 1918 to Nov. 1919 on hydraulic construction in the United States, 6 months on dam construction. *TT 2.5: SP 2.5.* Jan. 1920-June 1921 Asst. to Chf. Engr.; Vestfold Hydro-Elec. Power Co., Asst. to the Constr. Engr. at the Vittingfos Hydro-Electric Power Station, drafting, etc., for Plant No. 1, under construction, and design for Plant No. 2, Brufos (6 months); made general plans and layouts, calculated horsepower and estimated cost of developments of water falls; designed at Head Office all structures not belonging to the Elec. Dept. *TT 1.4: P 1.4: RC 0.9: D 1.2.* July 1921 to Oct. 1923 Asst. Engr., Norwegian State R. Rs., maintenance of way, location and construction of sidetracks, design of various smaller structures (total about 1½ years); on location of new trunk line, first as Chf. of Party, later in charge of parties in Lyngdal County. *TT 2.3: P 2.3: RC 0.5: D 0.5.* Jan. 1924 to 1925 Asst. to Supt. of Constr., The Stearns-Roger Mfg. Co., constructing new iron works (8 buildings), later design and drafting of equipment, etc. *TT 1: P 1.* At present with Chilli Exploration Co., Chuquicamata, Chilli. *TT 7.2: SP 2.5: P 4.7: RC 1.4: D 1.7.* Refers to A. Gundersen, N. H. B. Jessen, O. I. Knoph, A. N. Miller, E. B. L. Unger.

**733 (13) NICKEL, EDWARD AUGUST, Jun.,** 370 Russ Bldg., San Francisco, Cal. (Elected June 16, 1924.) (Age 28. Born Helena, Mont.) 1920 B. A. in Architecture, Univ. of Cal. May to Sept. 1918 Draftsman, Chainman, map-making, Spring Valley Water Co., San Francisco, Cal. May to Sept. 1919 Material Man, Union Constr. Co., Oakland, Cal. Dec. 1919 to Jan. 1920 Shipwright, Moore Shipyard, Oakland. *TT 2: SP 2.* May 1920 to Feb. 1924 with Spring Valley Water Co., as follows: 1 year on general engineering work, map-making and drafting; June 1921 to Jan. 1922 on Calaveras Dam reconstruction, spillway design (reinforced concrete, capacity 20 000 sec. ft., cost \$350 000); Jan. to July 1922 on Calaveras Outlet Tower design (reinforced concrete, 175 ft. high, cost \$100 000); July to Nov. 1922 Asst. in construction, Calaveras Outlet Tower; Nov. 1922 to April 1923 on Sunol Aqueduct reconstruction (reinforced concrete design, cost \$280 000); April to June 1923 on Stanford Heights Reservoir design (5 000 000 gal., cost \$80 000); June to Sept. 1923 on Niles Reservoir design (5 000 000 gal., cost \$70 000); Sept. 1923 to Feb. 1924 raising University Mound Reservoir design, dairy barn design, steel water tank design. *TT 3.6: SP 1.3. P 2.3: RC 1.4: D 1.4.* Feb. 1924 to March 1925 in charge of engineering and architectural work for Mee Estate, developing, subdividing and selling industrial property at Oakland (Cal.) Terminal; also designing, constructing factory buildings at this tract; in charge of design and execution of reinforced concrete building and bridge, changing course of Temescal Creek, and tract grading; also private work, consisting of four residences designed and built, and a 2-story frame warehouse designed and constructed (in Sept. 1924). *TT 1.1: P 1.1: RC 1.1: D 0.5.* March 1925 to date in private practice, structural and hydraulic engineering, San Francisco, Cal., completed a small concrete dam in Berkeley, Cal., and plans for frame warehouse; assisted in making several residential subdivisions. *TT 0.3: P 0.3: RC 0.3. TT 7: SP 3.3: P 3.7: RC 2.8: D 1.9.* Refers to A. J. Eddy, G. A. M. Elliott, T. W. Espy, I. E. Flaa, F. C. Herrmann, G. W. Pracy, J. J. H. Sharon.



**734 (1) PENA POLO, JORGE**, Jun., Calle 17 No. 144, Bogota, Colombia. (Elected Nov. 9, 1920.) (Age 31. Born Bogota, Colombia.) 1918 S. B. in C. E., Mass. Inst. Tech. and Harvard Univ. July to Aug. 1917 Rodman and Chainman, New York Central R. R. July to Oct. 1918 Transltman, Union Pacific R. R. *TT 2.3: SP 2.3.* Nov. 1918 to April 1919 Engr. and Draftsman, United Fruit Co., Preston, Cuba. *TT 0.4: SP 0.4.* April 1919 to March 1920 Asst. Chf. Engr., Santa Lucia (Oriente, Cuba) Sugar Co. *TT 0.9: P 0.9: RC 0.9.* April 1920 to April 1921 Engr., Bayamo (Cuba) Ry. Co. *TT 1: P 1.* April to Nov. 1921 Dist. Engr. of Constr., West Indies Finance Corporation in Caya Mambi, Cuba. *TT 0.5: P 0.5: RC 0.5.* 1922 to 1923 in private practice, land surveyng, etc., in Republic of Colombia. *TT 2: P 2.* May 1924 to date with Govt. of Colombia as Chf. of Party on location of Carare R. R. *TT 0.8: P 0.8: RC 0.8.* *TT 7.9: SP 2.7: P 5.2: RC 2.2.* Refers to B. B. deWitt, D. C. Fenstermaker, C. M. Spofford. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

**735 (4) PUGH, ISAAC WILLIAM**, Jun., 650 N. New St., Bethlehem, Pa. (Elected March 11, 1919.) (Age 31. Born Oxford, Pa.) 1915 C. E., Lehigh Univ. July to Aug. 1915 Surveyor, J. H. Harlow Co. of Havre de Grace, Md., in charge of surveys for proposed water power development. *TT 2.1: SP 2.1.* Aug.-Oct. 1915 Levelman, Lehigh Valley R. R. Co., surveying, drafting, estimating, etc., in office of Div. Engr. *TT 0.2: SP 0.2.* Nov. 1915 to May 1917 with Pennsylvania R. R. Co., 7 months as Chainman, and 1 year Rodman, designing, estimating and surveying for new buildings, bridge substructures and track work. *TT 1.6: SP 1.6.* June 1917 to March 1918 Asst. Bridge Engr., United Rys. & Elec. Co. of Baltimore, Md., surveying and checking stresses in various bridges, bridge inspection and miscellaneous maintenance work. *TT 0.7: P 0.7: RC 0.7.* March 1918 to March 1919 Engr. on statistics, Bureau of Aircraft Production, Program and Statistical Dept., U. S. Govt., Washington, D. C., in charge of compiling weekly production and shipment, report of old aircraft materials. *TT 1: P 1: RC 1.* March to Sept. 1919 Cost and Efficiency Engr., United Rys. & Elec. Co. of Baltimore, collecting cost data in construction and repair work, making tests on new materials and equipment. *TT 0.6: P 0.6.* Oct. 1919 to March 1921 Asst. Plant Engr., Union Shipbuilding Co., Baltimore, Asst. in charge of plant maintenance and construction of new concrete shipways, shop buildings, crane runways and marine railway. *TT 1.5: P 1.5: RC 1.5.* May to Dec. 1921 with Whiting-Turner Constr. Co. of Baltimore, as Engr. on construction of reinforced concrete school building and large concrete dam at Lock Raven for water supply of Baltimore. *TT 0.7: P 0.7: RC 0.7.* Jan. 1922 to March 1923 Civ. Engr. in office of City Surveyor, Baltimore, in charge of field survey parties on various property and street opening surveys, grade establishment, etc. *TT 1.2: P 1.2: RC 1.2.* March to Nov. 1923 Constr. Engr., Universal Oil Products Co. of Chicago, Ill., superintended construction and installed equipment in six oil cracking plants in Baltimore and one in Bradford, Pa. *TT 0.7: P 0.7: RC 0.7.* Dec. 1923 to date Designing Engr., office of Bridge Engr., Lehigh Valley R. R. Co., Bethlehem, Pa., design of miscellaneous reinforced concrete and steel bridge substructures and superstructures. *TT 1.5: P 1.5: D 1.5.* *TT 11.9: SP 3.9: P 8: RC 5.9: D 1.5.* Refers to R. L. Chamberlaine, R. J. Fogg, H. T. Rights, F. E. Schall, F. C. Stauffen, F. C. Stehle.

**736 (1) SCACCIAFERRO, SALVATOR JOHN**, Jun., 506 Highland Ave., Clifton, N. J. (Elected Oct. 10, 1921.) (Age 27. Born Castelbuono, Italy.) 1921 C. E., Cornell Univ. June 1921 to June 1922 Asst. Engr. with A. Potter, Cons. Engr., designs, estimates, reports, water works, sewerage, city planning. *TT 3: SP 2: P 1: RC 0.4: D 0.6.* July 1922 to Jan. 1923 Asst. Engr., Passaic Valley Sewerage Comm., Newark, N. J., drafting, designs and research on sewage treatment. *TT 0.5: P 0.5: RC 0.2: D 0.1.* Feb. 1923 to March 1924 in private practice, surveying, supervising construction. *TT 1.1: P 1.1: RC 1.1.* April to Nov. 1924 Asst. Engr. with Sanborn & Bogert, Cons. Engrs., New York City, investigations, designs, reports, watershed sanitation, water-works, sewerage, sewage treatment. *TT 0.7: P 0.7: RC 0.7: D 0.3.* Since Oct. 1924 Associate Prof., San. Eng., Manhattan Coll., New York City. *TT 0.7: P 0.7: RC 0.7.* *TT 6: SP 2: P 4: RC 3.1: D 1.* Refers to F. A. Barnes, C. L. Bogert, H. N. Ogden, J. E. Perry, J. F. Sanborn, F. J. Seery, C. L. Walker.

**737 (15) TAYLOR, BILL NORTHCUTT**, Jun., College Station, Tex. (Elected May 19, 1924.) (Age 26. Born Longview, Tex.) 1919 B. S., Tex. Agri. and Mech. Coll. July 1919 to July 1920 Jun. Engr. or student in Doherty Training Schools of Petroleum Engrs., connected with Empire Gas & Fuel Co., Bartlesville, Okla. *TT 3: SP 3.* July 1920 to April 1921 Constr. Supt., Tidewater Oil Co., Tampico, Mexico, on supervision of construction of terminal (dock and dredging work) and Asst. on narrow-gauge railroad. *TT 0.7: P 0.7:*

RC 0.7. Aug. 1921 to April 1924 Draftsman and Office Engr., Venezuelan Sun, Ltd., Maracaibo, Venezuela, Branch of Sun Oil Co., Philadelphia, drafting, supervision of design of structures, mapping of concessions, and Asst. to Chf. Engr. TT 2.7: SP 1: P 1.7: RC 1.7: D 0.2. Sept. 1924 to date Instructor, Texas Agricultural and Mechanical Coll., C. E. Dept. TT 0.6: P 0.6. TT 7: SP 4: P 3: RC 2.4: D 0.2. Refers to B. Bird, W. E. Givens, T. A. Munson, J. C. Nagle, J. J. Richey, C. E. Sandstadt.

The Board of Direction will consider the applications in this list not less than thirty days after the date of its issue.